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Original Lectures.

PARALYSIS AND CONVULSIONS AS EFFECTS OF DISEASES OF THE BASE OF THE BRAIN.

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(Reported for the Journal and Examiner.)

THIRD LECTURE.

GENTLEMEN: I have to-day, to treat at length, or at least, as far as time will allow, of three distinct points.

First, the basis that I can offer for the new views of paralysis and convulsions, caused by disease of the brain.

I have next to examine the diagnosis of disease of the brain cells from the new point of view.

In the third place, I have also to give the conclusions that can be drawn from the facts given in the two preceding lectures, as regards treatment.

And first, I have to speak of paralysis, and to examine the possible support of the views I have expressed. What I maintain is, that paralysis appears in case there is a destruction of

tissue in the part of the brain where there is disease, and that the consequent irritation of the cells of grey matter distributed in many parts of the brain, or in only a few parts, or perhaps also (and most likely), in some parts of the spinal cord, there acts on these cells so as to arrest their activity. This view, as you can easily understand, is very radical, and it was not without some hesitation that I put it forward for the first time a few years ago. But since then, facts have come to light which seem to give a clear and decided emphasis to these views.

On the other hand, the necessity of replacing the views which I think ought to be abandoned altogether, and which are now generally admitted, requires that for a time, at least, till we know better, we should have some theory to connect the facts and serve to promote further progress. You well know that in science, a theory which is in harmony with every fact that is known or developed, and not in contradiction with any, ought (if there is none better) to be accepted, at least temporarily. It may prove to be true, and it may prove to be completely the reverse; but for the time being, it ought to be accepted, because we need a theory for the development of our knowledge. Therefore, till I know that there are facts in opposition to the views that I have expressed, I think it is essential that these views be admitted at least by myself first, and if any one among my hearers feels inclined to accept these views, I believe they may serve till something better is found.

We find sometimes that an affection of the brain, of minute extent, having existed there for some time, but having given no manifestation whatever, will suddenly produce a paralysis. As we find, in the autopsy, that the lesion is very limited, and that there is disorganization of but a small part of the brain, we certainly must admit that something has irritated an organ, and thus produced paralysis. Otherwise, we could not understand how such a minute lesion could produce such a complete general paralysis. Now, put such a fact in the presence of another, such for example as I once observed in London. A patient was brought to me, as one attacked with general paralysis, and having certainly the characteristics of that affection; I detected (when he was leaving my office, where I had prescribed as if it

was a pure case of paralysis) that when his hand was brought to a certain organ, the irritation was considerable at that part; and on examination, I found that balanitis existed. Noting this, I examined further into the case, and found symptoms of paralysis of the brain. The symptoms were slight, and they were covered and crowded out by other symptoms. The treatment appropriate to that affection, the inflammation of the prepuce, was applied, and in less than a week the patient was radically cured. In that case there was external irritation of no considerable extent, and acting through the organ which has great power in certain individuals, on the brain. In that case we had a general paralysis, and if slight irritation can produce a slight paralysis, considerable irritation should produce greater paralysis.

I could mention a great many facts which show that in animals we can produce paralysis by slight irritation. I have already spoken of paralysis that consists of a loss of the action of muscles and blood vessels on one side, together with paralysis of sensibility in the opposite side, and shown that this may come from a prick of the posterior column of the spinal cord as well as section of the cord. It is not certain that destruction of tissue always produces paralysis; but it certainly comes through an influence exerted by irritation propagated through the cells so as to cause paralysis and other symptoms. It is the same in many of these cases in which, by affecting the sciatic nerve in animals, I have caused epilepsy, and have seen frequently after a division of the sciatic nerve, more or less paralysis of the abdomen and spine, and in each lower part on the same side. There is also, not always but in many instances, paralysis of the muscles above the place of section of the sciatic nerve, which receive no fibers from other nerves than the sciatic. But the most clear series of facts showing that we can produce paralysis by the mere irritation of certain nerves and certain parts of the nervous centers, is that in which, by a mere prick of certain parts of the *medulla oblongata*, symptoms of general and complete paralysis are produced, with loss of consciousness. The animal falls, as it were dead from the prick. The action of the heart is weakened; the breathing ceases completely. There is no appearance of life so long as you do not excite the skin, by means of which you can

produce reflex action, showing that the reflex power of the cord is not lost; but the power of the will is lost, and if you lift the limb it drops with complete loss of consciousness; the heart ceases to beat and death comes. There are many other features most interesting indeed, but which I have not time to dwell upon now. I will only say that changes take place to such an extent in the blood and other parts, that putrefaction may be delayed from 30 to 50 days after death, and that the body may be left in a room at a temperature of 70° for a long time without decomposition. Such facts show that not only paralysis may appear, but other phenomena from the arrest of the activity of the cells. If we study what takes place in man under similar circumstances, we find that phenomena more or less like these will ensue. There are instances where a single wound in a more sensitive part of the body, as in the hand or foot, has produced similar effects. In one case I saw such effects result from a mere prick. The patient was to be bled; the lancet had not gone in before the patient fainted away, the heart ceased to beat, and the limbs seemed to be dead. The patient was recalled to life with the greatest difficulty. Death would have occurred, if the most energetic means had not been employed immediately. So that paralysis, or this cessation of activity of the cells employed by the will, can ensue from causes in appearance trifling. These effects certainly render quite forcible the theory I have put forward; and what remains to be explained is this: Why is it that paralysis will appear in one part of the body with a given lesion in one person, and in another part of the body with the same lesion in another person? I have already stated that, according to the conditions of excitability of the various parts of the body, the effects of irritation starting from a certain part, will be extremely various, and in this we have the great cause of the difference between the effects in different individuals produced by a similar lesion.

As regards other facts which are in favor of the view which I have put forward, you will notice, if it is a case of disease of the brain, that the heart's action will be diminished considerably. There we have a clear case of inhibition or arrest of activity of certain nerve cells; we have a clear proof that the phenomena of arrest, or inhibition if you like to call it so, will come from

disease of the brain and proceed for days and days; and there are cases on record in which, for many months, the pulse rate per minute has been 30 or 40. We see therefore that, together with the propagation of paralysis in these cases, there exists the clear influence of arrest, which is similar to the propagation of paralysis itself. The objection to the view I have put forward, which would be based upon the persistence of paralysis after the lesion of the brain is produced, may be answered. In putting together what relates to the heart and what relates to paralysis, this objection falls to the ground; as we know that it is from arrest that the heart's action is stopped or considerably diminished. And if that phenomenon can persist for days, weeks and months from a certain cause, we can expect also that the same thing will take place from influences connected with cells in the brain or spinal cord.

But there are other arguments more fully in favor of the views which I have proposed. Every physician here, every student knows that two kinds of paralysis may appear in cases of brain disease, and no doubt may appear very frequently, when the disease is in the base of the brain especially. Those two effects consist in paralysis of the sphincter of the bladder and of the sphincters of the rectum. These sphincters may lose their action altogether. Every one knows that these sphincters are not kept active by the brain. They are kept active by the cells in the gray matter of the spinal cord. It is clear, therefore, that the arrest of action of those muscular fibres which pass to the two sphincters, must be due to arrest of activity of the cells which keep them in a normal state of tension. In these cases, therefore, we have clear proof that disease of the brain can produce arrest of activity of cells in the spinal cord, just as it can produce it in the nerve cells of the heart. Therefore we have something similar to what I believe to exist in the arrest of activity of cells in the brain and spinal cord, producing paralysis.

There is another fact of great importance and of some purport, which is that the reflex faculty of the spinal cord may be lost completely in cases of disease of the brain. There we have clear proof that the cells in the spinal cord, which are used no doubt with reflex power, lose their activity; and the influence which comes from the brain must come in the same way as that which

arrests the activity of the cells of the heart. We have, therefore, a number of facts showing that cells at a great distance from the brain—cells in the lower part of the spinal cord, as well as cells in the tissue of the heart—can lose their activity, can have their activity inhibited, as it is called, from an influence coming from the place where there is a disease of the brain. If so, we have something quite similar to what I suppose to exist in the propagation of paralysis. We have also in these facts which may be said at present to be numerous (they are very rare indeed, but I have collected a pretty large number of them, so that I am led to employ the expression "numerous"), we have facts, I say, which show that paralysis due to organic disease of the brain has disappeared more or less rapidly, and sometimes suddenly, the disease producing them still existing. In these cases, if we were not to admit that the paralysis was due simply to arrest of activity, we could not explain the phenomena. The array of facts is very large, in which it appears that a cessation of activity can be produced by mere irritation, and can disappear more or less suddenly, when the lesion, if it is a large one, persists.

Let us take what is known of amaurosis. A prick may produce amaurosis in some cases. On the other hand, we find in man, that amaurosis though appearing gradually and slowly in certain cases, has appeared suddenly, and in a few cases has disappeared as suddenly. The autopsy being made, however, the disease which produced the phenomena was still found to exist. Therefore we may admit that the activity of the cells in any part of the system may be stopped, may be arrested, may be inhibited for a time (it may be a very long time, or may be merely temporary) and be caused by an irritation in certain parts of the brain or other parts of the nervous system.

What now have we to say of the production of convulsions in cases of disease of the base of the brain? Convulsions in these cases have certainly something peculiar in their production. Indeed, in the study of the effects, either of the common forms of convulsions, chronic movements, epilepsy, rigidity, trembling or any kind of involuntary movement, when these disordered movements appear to result from disease in any part of the base of the

brain, we certainly find that the old views cannot be applied to explain the phenomena in a number of these cases. That we find irritation limited to a small number of fibers producing convulsions in the two sides of the body, is certainly true. We find that these kinds of disordered movements appeared in a great many cases on the side corresponding to that of the lesion. Whether the lesion is of the *crura cerebri*, or the *pons varolii*, we have something in complete discordance with what is admitted.

What about convulsions in these cases? As I have said, convulsions appear where motor fibers or motor centres are irritated, and the irritation is propagated by the cells of the nerves, acting upon this excitability so as to produce the phenomena of convulsions. If the cells of one part of the spinal cord or *medulla oblongata*, are more excitable than the cells of the opposite side, there will be convulsions; if the reverse, the convulsions will be on the other side. Indeed, I do not see that there can be any difficulty if you have this key or explanation, which consists in admitting that an irritation, starting from the place of the disease, proceeds to the parts so as to produce a morbid activity. If the cells are endowed with a power to produce movements, they produce convulsive movements, of one kind or another. We have, therefore, a common element, a common principle, which we may apply to the protection of these centers. In the two instances, according to the theory I propose, the irritation starts from a part where the disease is, and is propagated to the cells all about the system, and it may produce the one or the other effect. There is a similarity so far in the production of convulsions and paralysis in this respect, that in the two instances there is a common element of irritation starting from the place of the disease, and reaching the cells. When the cells are reached, then the variety may begin. If these cells are in a certain degree of excitability, which makes them lose the power of action, paralysis appears. If these cells, on the contrary, are excited like the cells of the spinal cord or *medulla oblongata*, and reflex movement takes place, the reflex movement occurs convulsively—either convulsion or stiffness or any kind of involuntary muscular contraction. It is exceedingly easy to explain the phenomena in

that way, and I do not know of any facts in opposition to these views. If you do, I should like to hear of them.

There is, indeed, one point, which I mentioned in the beginning of this lecture, which relates to the diagnosis of convulsions and paralysis, when their cause is in the base of the brain. It may seem to some of you that the new views I propose render diagnosis more difficult than before. But it is certainly not so. Indeed you can easily understand *a priori* that if the other views were wrong, they could not help the diagnosis; they must have been the cause of mistakes. It will be certainly a good test of these new views if we find the diagnosis become easier for those who admit them. Upon this point I will say that I have been able in some cases to form a diagnosis, which would have been a matter of extreme difficulty if the old views had been admitted. If we find, for instance, a series of symptoms, such as a slight paralysis coming on secretly and slowly, perhaps in the right side of the body, an arm or a leg, and, together with the paralysis, a very slow anæsthesia and some slight degree of rigidity, we are led to think there is disease on the opposite side of the brain. But if we find the face paralyzed in its motor action on the same side, if we find that the susceptibility of the face is diminished on the same side, if we find the eye is inflamed, we have then together with the other facts I have mentioned, and with those I have not mentioned, a very great probability that a disease exists at the base of the brain, which affects the trigeminal nerve and produces the effects which we know appear when we divide that nerve. If, besides these symptoms, there is also some deafness on the same side, and if there is some strabismus, showing that the sixth pair of nerves is paralyzed so that the eye is drawn inward, that is another reason for believing that there is disease affecting the facial and the seventh, fifth and sixth pairs of nerves. If these nerves are diseased on the same side, and the paralysis in the limbs exist on the same side, you must either admit that there are two lesions in that man, or, if you are ready to admit that the paralysis can exist on the corresponding side of the lesion, then you are ready to admit that one single lesion can produce all these effects. How can you be sure as regards this? By the complete absence of symptoms of any kind in a case such as that

I have mentioned, when the paralysis is on the right side. You may certainly admit that there are two lesions, as that would be in harmony with the facts. You might admit a lesion of the nerves I have mentioned, without affection of the base of the brain. But if the paralysis has appeared at the same time that the symptoms appeared in the nerves I have mentioned, and if the paralysis have progressed *pari passu* in the same ratio of increase, then it is certainly evident that there is only one lesion. Thus you can arrive at the diagnosis by admitting the views I have set forth. It is only admitting that paralysis may be produced by disease in the base of the brain, on the corresponding side, which is altogether in opposition to the views generally admitted.

I have not time to insist upon this point, but will say that, as regards the diagnosis of the disease in the base of the brain, physiology, such as we know it now, may serve to help the diagnosis immensely. Indeed, when the lesion is in any part of the base of the brain which contains the nerves of the third pair and last cranial nerve, originating from the *medulla oblongata*, if you state with the greatest care all the symptoms that may appear in the eye, ear, face, tongue or throat, you find the seat of the disease pretty readily; but if you are inclined to admit that convulsions can appear on the same side and paralysis on the same side; if you are ready to admit that the four limbs are convulsed from a lesion limited to one side of the base of the brain; and if you put these facts together with the facts which show what is the seat of the disease, then you can localize the disease—you can diagnosticate the seat of the disease pretty readily. But if you admit the old theories, you are at sea and cannot come at a diagnosis in those cases in which the symptoms of paralysis or convulsions are not in harmony with the admitted theories; so that with these new views diagnosis may be aided rather than hindered.

I now come to the last part of this lecture, and that is, what rule of treatment can we draw from these new views, or from the facts on which these views are grounded? I should like to have more time to deal with this topic. But first, I will say that I believe a new field of therapeutics has been opened, and one which promises to be of the greatest advantage, by the acquisitions of science within the last 30 or 40 years. If we take, for

instance, a case of convulsions, it clearly proves what I wish to explain. If we suppose, for instance, a case of disease in the dorsal part of the spinal cord, leaving a great part of the cord perfectly healthy, in such a case, as you well know, there are powerful convulsions. In such a case, simply treading on the big toe will stop the convulsions immediately. And by what mechanism is the rigidity stopped? It is quite clear that in such cases there is a morbid activity of certain cells, which are continually throwing off nerve force. If an irritation comes from the big toe, it stops that activity. It is similar to what takes place when we stop the action of the heart by galvanizing the pneumogastric nerve. I have no knowledge whatever that can explain why this is so; but I do know that certain parts of the body are endowed with powers which other parts do not possess; that an irritation in the sole of the foot, for instance, can produce reflex phenomena more powerfully than in other parts of the body. No doubt, in such cases, we have clear evidence that morbid activity of the cells can be stopped by mere local irritation. The same thing takes place in many cases of epilepsy. Muscular contraction, preceding the attack, and preceding the loss of consciousness, occurs. In many of these cases it is exceedingly easy to put an end to the attack, and to the loss of consciousness. Suppose it is the head that is first attacked; suppose the head is brought with great force towards one shoulder. In such case, if the head is taken hold of firmly, and brought strongly towards the opposite shoulder, the attack will cease, certainly in 19 cases out of 20, if the patient has not lost consciousness; but it is essential that the consciousness be not lost; for when it is lost, and the attack is on, I do not know of any means that can make it cease.

There are means of diminishing the force of the attack, such as pressure on the pneumogastric or the neck. It was thought that pressure exerted on the carotid artery, reducing the amount of blood flowing to the brain, was beneficial. That may have a little truth in it. But the greatest effect which comes from the cessation of the attack after it has existed, is produced through the influence exerted on the heart, by pressure on the *par vagum*. Convulsions, therefore, may be prevented, and a loss of con-

sciousness, and a complete attack of epilepsy may be prevented, by the mere action of certain nerves. When I first had a large field of practice in 1860, in London, I found in a number of cases in which there was muscular contraction and convulsions, that drawing on the muscles which contracted so as to elongate them, was generally sufficient to stop the convulsions; but I found also that it was not quite essential to do that, in many cases a mere bandaging of the skin was quite enough. In many cases the application of a ligature is sufficient. It is not because the ligature prevents something from passing, as was formerly imagined; but, on the contrary, because the ligature sends something to the brain. It changes the activity and stops the attack. So true is this, that the best plan consists in not applying a ligature in the ordinary way, but in applying a series of ligatures like handkerchiefs, and drawing them again and again over the surface, so as to irritate the skin. The ligature is not essential. All that is necessary is merely to bandage the part or to apply over it the cautery, or a piece of ice, or anything that can irritate the skin considerably and rapidly. It is quite clear, therefore, that when we stop an attack of epilepsy in this way, we produce an irritation, which irritation goes to the base of the brain, and there stops the activity of the cells, which morbid activity was preparing an attack of epilepsy.

As regards these phenomena of arrest, these inhibitory phenomena may be employed to prevent attacks of hysteria; also a good many other kinds of attack, such as catalepsy, or other convulsive phenomena of various names and forms. In these the irritation of certain parts can produce a cessation of the attack. As regards hysteria, pressure on the ovaries will increase the hysterical phenomena; but in some attacks of convulsions, pressure on the ovaries will stop an attack.

The other means of treatment which I have employed with great success, consists in raising the two arms of the patient over the head suddenly. That is quite sufficient sometimes. Any great irritation can succeed. But if you find a patient on whom the exercise of irritation is absolutely useless, do not give up the attempt, but adopt other means of counter-irritation, and you will have a great chance of being rewarded. It is most important

to preserve the patient from an attack, not because you save him from that attack merely, but because any attack of a nervous affection is the cause of after attacks, owing to the change in the circulation which takes place in the base of the brain. This is especially the case with epilepsy. Saving the patient from an attack of epilepsy is saving him from a series of such attacks. These views as regards the arrest of activity of the cells, so far as epilepsy is concerned, find confirmation in certain effects which have been observed as regards paralysis or other forms of cessation of activity of cells, as in hysteria.

Consider what relates to anæsthesia. For instance, a friend of mine found that the passage of the galvanic current in cases of anæsthesia would cause the anæsthesia to cease. Thus we have a proof that anæsthesia, although due to organic disease in some cases, and, as all theories have it, due also to destruction of tissue in part, yet there remains the power to perceive sensation in some degree, or we could not cure it so rapidly. In researches made by Prof. Vulpian, other cases have been found. The galvanic current has cured amaurosis. No other way of explaining these cures can be found except this, that amaurosis, as well as anæsthesia, is due to the arrest of activity of cells, and that the irritation which the galvanism produces, causes, in its turn, the highest activity of cells in the part where the disease is. This morbid activity of some cells is thus stopped by the activity of other cells. If the part where the disease exists is acted upon by the galvanic current, so that the cells lose their activity, then the bad effect ceases. We have a cessation of activity of certain cells in a morbid state, and, as a consequence of that cessation of activity, we obtain a return of the normal state of the cells, which were kept in abeyance by the action of the cells where the disease exists. Whatever this theory is worth, the facts are most interesting.

Since these facts have been published, others have been brought to the attention of the medical public, which had been studied with great care by Burke in Paris, but which had been rejected or which had not attracted attention. The other facts, since Prof. Charcot took them up, have become an important field of study. Prof. Charcot took the facts of Burke—facts showing

that the application of metallic plates on the skin have been sufficient to cure anæsthesia, and has shown that pretty much what was obtained by Vulpian by the galvanic current, can be produced by plates of metal—as a piece of copper or other metal. There are some patients who will be affected by gold, who will not be affected by copper; so that if you try experiments with these metals, you ought to try alternately gold and copper.

In facts of this kind it is quite clear that if we stop anæsthesia, it must be from the arrest of the morbid activity of certain cells. Now, what has been observed in these cases? As regards anæsthesia, as has been observed, there are other means of treatment, and the field has not yet been fully explored; but some of the facts which I have presented, and which are becoming more and more numerous, lead us to admit that in cases of paralysis due to brain disease, or disease of the spinal cord, the best mode of treatment by counter irritation consists in applying counter irritation over the spine or nape of the neck, but chiefly in applying the counter irritation to the limbs and especially the paralyzed ones—not exclusively to these limbs but chiefly there. I should say that Dr. Graves of Dublin, after having tried these means, adopted the theory that in cases of disease of the spinal cord, counter irritation ought not to be applied to the spine, but to the lower limbs. But I cannot accept his theory. When I took up the subject, I began in cases of locomotor ataxy, and applied counter irritation to the limbs, and I found that the means had the power to diminish the disease in a number of cases, especially when the disease had not extended to the grey matter and was not accompanied by paralysis of the centers, but only by ataxic movement. I applied a plaster to the limb, all around, about an inch and a half or two inches in width. If on the thigh, it must be only about one inch or one inch and a quarter. As you move down the leg, the shorter the circumference of the limb, the broader the band of the plaster should be. This circular plaster has an immense power. In the two cases where organic disease produces paralysis and when epilepsy exists without organic disease, pretty much the same condition of things exists. It is a change in the activity of the cells in the base of the brain or the spinal cord, which is produced by this peripheric irritation. There is no

doubt that all sorts of means of irritation have more power in these cases applied over the limbs and especially those which are paralyzed, than when applied to the head, neck or spine in any part of its length. Still you must not lose sight of the fact that from the *vaso-motor* nervous system of the head, arises the spinal cord on a level with the second or third vertebra, and then when you wish to produce a change in the circulation, you must apply counter irritation; and among the means of counter irritation most powerful to produce change, is ice applied over the skin—not in a bag. The bag is too thick. Anything interposed between the ice and the skin, diminishes its action. Ice applied four to eight minutes on the bare skin, is a means of great power.

Next to that the cautery, applied so as to produce a simple drying of the skin, is a good means. And you obtain this without giving rise to pain, or without having its application followed by pain. You obtain this result by the use of a pointed instrument used at a white heat. When applied at a white heat, and when the contact is made firmly and rapidly, there is scarcely any pain. Indeed, this very morning, a gentleman in this city, after being burned, was surprised to find that all was done, and was inclined to think I had merely tried to make him believe that it had been done. The application, in fact, is exceedingly easy. So slightly painful is it, that I have never seen a patient refuse it a second time after first receiving it. Among the means of counter irritation which may change the activity of the cells, these are certainly among the best, and in harmony with the theories I have put forward in this room. If we wish to change the morbid activity of the cells, no better means exist than applying irritation to the nerves of the skin in the parts which receive the nerves from the seat of the disease. But, as I believe that one side of the base of the brain has nerve fibers going to the two sides of the body, you may understand that I do not think it necessary to apply it to the paralyzed limbs. You may obtain success in applying it on the other side, as there is communication by the nerve fibers with the cells at the base of the brain, between the two sides of the body and the one side where the disease may exist.

But there are other means, and in the future when we pay more attention to what is taught by the power of arrest of activity,

the treatment of disease of the brain will have gained immensely. If we examine what remedies may have power in cases of paralysis, we find that the most powerful is that one which we know to be able to increase the reflex excitability of the spinal cord at the base of the brain. Suppose the cells which move the various parts of the body to be stopped in their activity. Suppose the inhibition has taken place, as I believe, when there is paralysis. In such case, according to the theory, the cells of grey matter in the spinal cord as well as in the base of the brain itself, have their activity arrested. The best plan, theoretically as well as practically, is to make use of those internal means that can increase the reflex excitability; and nothing is as good as strychnia for that purpose. But as regards the dose it must be such as to produce a decided effect. When, in 1814, Fouquier made the first use of nux vomica, when he studied its action in paralysis, he invariably gave doses which were able to produce stiffness; and he obtained a most wonderful success. He was a most reliable man, a professor in a school of medicine in Paris and a physician to Louis Phillipe, and he certainly deserved his high position for his accuracy in observing facts. Since that time two or three medical men have practiced the use of strychnia in cases of paralysis caused by disease of the base of the brain. Fouquier gave doses, which, for a long time, kept his patients in a state of almost constant stiffness. There is no danger in producing that stiffness. The patient may be frightened, but if he have confidence in you, you can give it without risk. I have placed my own person under the influence of strychnia in such cases for days, without any other unpleasant sensation except inability to move about for a time. There is no doubt whatever that strychnia, in large doses, has a very great power indeed in increasing the reflex faculty of the spinal cord against paralysis, in cases of disease of the base of the brain. As regards the dose, it is a question of constitution. So begin with a small dose—one thirty-second of a grain three times a day. Go on increasing the dose gradually. I have seen patients bear perfectly well two-thirds, or even three-fourths of a grain in a day. But these patients are rare. Generally stiffness appears when the dose rises to one-tenth of a grain, three times a day. It is essential, if the dose is not sufficient, to go on increas-

ing it cautiously. But you must be exceedingly careful, on account of the difference of dose necessary to produce a given result in different patients. In one case one-eighth of a grain may produce no effect, and yet a difference sufficient to increase the dose to one-seventh of a grain might produce an effect.

Therefore, the best plan is to dissolve a certain amount of strychnia in a large quantity of water, and go on day after day giving each day half a teaspoonful more. The measure must be accurate as otherwise there would be risk of producing too great effect. When you reach a dose producing stiffness, then go on measuring the same dose every day until the symptoms disappear. In some individuals such dose will be taken without effect; but it is exceedingly rare. There is no loss of power of the remedy and no increase. The old notion that strychnia increased in the system is in opposition to the facts. It is owing to the fact that, as I said, a moment ago, the addition of a minute quantity to a dose that produces no effect, will produce an effect. This has misled some persons. But I should like those among you who feel inclined to increase the dose, and who find that it can be brought up to two-thirds of a grain a day without producing convulsions, I should like those who might witness such a thing to be aware of the possibility that strychnia may not be as rapidly absorbed in the bowels of one person as in another. I had a patient who was taking nearly one grain a day without any special manifestation. I became a little nervous, and asked that the stools be sent to me. An examination was made by washing the stools with water, and then a frog was dipped in the water which had taken away simply a part of the strychnia. I found the frog to become tetanic, showing that there was strychnia in the stools. It proved that the absorption of the strychnia had not taken place in that case.

You may easily understand that a change might take place in such an individual, and after giving the strychnia for a time without any visible effect, suddenly there might occur symptoms which might frighten the patient, the family and perhaps yourself. The dose might be such as would endanger the life of the patient. It is, therefore, quite essential to test the stools, and ascertain whether or not the strychnia is absorbed.

I should like to dwell, gentlemen, much longer on this subject, but I regret that I must close. I have, therefore, only to thank the gentlemen who have been willing to listen to these disconnected sentences. I much regret, that by the necessity of curtailing, I have been obliged to pass important parts of the subject and to give assertions rather than demonstrations. But if, as I have some hope, the views that I have suggested are taken up by another man in the audience, I hope some good will come from the lectures. I have to thank you for your kind attention.

We note with pleasure in the *American Journal of Obstetrics* for April, 1878, a communication from the pen of the senior editor of the Chicago Medical Journal and Examiner. It relates to the question of the veracity of Dr. J. M. Rose, of West Winfield, N. Y., whose article entitled, "Four Successive Ruptures of the Uterus in the Same Patient," was first published by us in August of the year 1877. This paper has been extensively reproduced in Germany, France, Italy and Spain; generally with a protest against its acceptance as true.

Dr. Byford completely vindicates the reputation of our contributor, as a veracious and conscientious member of the profession.

J. N. H.

Long Nails in the Kingdom of Annam.—According to Lieutenant de Corbigny, literary men in Annam are known by the dimensions of their nails, which sometimes attain a length of twenty-five centimetres. The nail of one finger, however, is cut short, to enable its possessor to scratch himself—a laborious undertaking in all classes of that country. (*Le Tour du Monde*, Jan., 1878.)

Original Communications.

A CLINICAL STUDY OF MOLLUSCUM CONTAGIOSUM.

By George Henry Fox, M. D., of New York.

Based upon a paper read before the American Dermatological Association at Niagara, Sept. 4, 1877

The little soft pea-sized tumors, with constricted base, central depressed orifice and whitish curdy contents, which constitute the affection known as molluscum contagiosum, are so peculiar in appearance, that when once seen and recognized, they are not apt to be overlooked or mistaken when met with a second time. It is probable, therefore, that the affection, though comparatively rare, is familiar to every reader who has had much experience in the treatment of children, or in the treatment of skin diseases occurring in the adult. For a description, I will refer to text books, and devote the space thus saved to a fuller discussion of certain interesting features of the affection. I have been exceptionally fortunate in having had cases come under my observation, thanks to the kindness of friends in the profession, and now in looking over my notes, I find the following record of twenty-five cases:

I. A young woman. A single molluscum on forehead.

II. A young woman. Face studded with mollusca, pretty evenly distributed. Eruption bearing a striking resemblance to that of the pustular stage of variola.

This case was decidedly unique, and my recollection of it is vivid. The patient was seen by two able physicians in New York, and although the diagnosis of variola was not actually made, it was strongly suggested to both, as the case occurred during the extensive small-pox epidemic of 1874. Had this

patient been placed in a small-pox ward, I think any physician might have walked by her bed without discovering at a glance that it was not a genuine case of small-pox. The numerous, whitish, flattened tumors, with their central depression, bore a most striking resemblance, when observed from a short distance, to the umbilicated pustules of variola, and as the girl's face was naturally full and florid, the absence of redness and tumefaction was hardly apparent.

III. Girl, eight years old. Two mollusca on right side of chin. Thinks that she caught them from a little girl living in the same house, who had five, likewise on the chin.

IV. Lewis E., æt. 12. Thin and pale, although in fair health. Examined Feb. 5, 1876. Two mollusca near right nipple, a small one on the nipple, a small one over sternum, two on right arm, one on right shoulder, 26 on back (18 of which were to the right of median line), and one on abdomen. The tumors were first noticed two weeks ago, and vary, from pin-head to small pea in size. No itching nor sensation of any kind, unless irritated by contact of clothing. Feb. 19. A small molluscum noticed on dorsum penis.

This case was exhibited to the N. Y. Dermatological Society. It might be described as a general eruption of molluscum, similar to cases reported by Wilson, Zeissl, and Hutchinson. It is one of the few cases I have met with, in which the mollusca were not confined to a limited region of the body. These cases of general eruption have been supposed to result in several instances, from the use of the Turkish bath. Whatever the probability of such a cause may be, I must not omit to state that in my case the boy had suffered from scabies, and been subjected, without doubt, to an unusual amount of bathing. Several attempts at inoculation were made in this case, both upon the patient's body and upon myself. The expressed contents of the tumors were applied to scarified surfaces, or rubbed into the sound skin, and in some instances covered for a short time with a moist rag and bandage, but the attempts were without exception, unsuccessful. The tumors in this case were of unusually rapid growth, and displayed a tendency to speedy desiccation upon reaching the size of a pea.

V. Joanna E., æt. 5. A red-cheeked, chubby little girl. Examined April 8, 1876. Six or eight mollusca of varying size on left thigh, just above popliteal space. Affection began a year ago. During past week, a group of the larger ones inflamed, and a dark crust formed. Apr. 14. Noticed two small mollusca on left gluteal region.

In this case, as in others, there was no history whatever of contagion. Her little brothers and sisters, though playing with her by day and sleeping with her at night, had never been affected, nor had any of the neighbors' children. One sister had ordinary warts on her hands.

VI. Maggie C., æt. 14. Pale, thin, and in poor health. Examined March 24, 1876. A pea-sized molluscum just above inner canthus of right eye. Another small one just below inner canthus of left eye, one on right side of nose, and one on right side of chin. An eczema of both lids, with considerable thickening and marks where other mollusca have been. According to patient's statement, a dozen or more pin-head sized mollusca appeared about inner canthus of right eye, two months ago. An acute eczema resulted from pinching these, and, shortly after, a conjunctivitis set in.

This case, which was shown before the N. Y. Ophthalmological Society, illustrates an important clinical feature of the affection, viz., the tendency to severe conjunctivitis when the tumors are located upon the eyelids. Henderson, one of the early writers upon molluscum, relates a case in which the eye was destroyed.

VII. Wm. S., æt. 1. Examined July 18, 1876. Twenty or more mollusca of varying size scattered over the face and neck, one on dorsum of right index finger. First noticed three months ago. Have grown rapidly during past three weeks. The walls of several of the tumors exhibit a marked vascularity. The larger ones have assumed a dark red hue, and tend to ulcerate when scratched or picked. Mother has four other children, but there is no evidence of contagion.

VIII. Annie M., æt. 4½. Sept. 2d, 1876. Seven mollusca of varying size, two near the inner canthus of right eye, the others on chin, cheek, and neck. In May last had one beneath right oral commissure. A sister, æt. 7, had one at that time in a similar location, but no scar is seen at present. Two other children in the family are unaffected.

IX. Kate M., æt. 7. Examined Jan. 17, 1877. Small mollusca appeared eight months ago, on either side of chin and upon eyelids. Mother says the child used to play with another little girl, who had warts on her hands. Patient has now a small abscess over the outer canthus of left eye, also a small ulceration at outer extremity of right eye-brow, both abscess and ulcer showing where mollusca have undergone destructive inflammation, four mollusca on the chin, one surrounded by an inflamed areola, one highly inflamed and swollen, another partly destroyed and covered by a scab. A perfect one on the neck, and two small ones on wrist and thumb. A month ago, an older sister, aged 14, had four or five on left cheek, which disappeared suddenly, and mother says, without scabbing.

This case illustrates perfectly the tendency of molluscum to destructive inflammation, and the stages of this process.

X. Annie K., æt. 12. A girl of strumous constitution. Examined May

7, 1877. Has the remains of two or three mollusca on chin, existing either as an excoriation covered with a yellow crust, or as an indurated papule. They came only four weeks ago, but are already at too late a stage for recognition as mollusca. States that she had three on side of nose, which were squeezed out. Her brother, aged 7, has a molluscum on forehead. Another brother and a sister are unaffected, although they sleep four in a bed. A child of a married sister, who died last August at two years of age, had a number of mollusca around the eyes.

XI. Manfred H., æt. 7. July 7, 1877. Has a single pea-sized molluscum on the tip of nose. It is of two months standing, and has enlarged within past week. Patient states that a little brother had some around the eye about a year ago, which disappeared suddenly, and that a little two year old baby has now a few "specks," size of pin-heads, under the eye.

XII. Fannie W., æt. 1½. Examined July 7, 1877. Nearly one hundred mullusca beneath chin, varying in size. A bean sized tumor is caused by the close proximity of several. There are a few scattered on neck and breast, and about the eyes. An older sister has nothing of the kind. She lives next door to Annie M. (Case VIII.)

XIII. Mary Agnes R., æt. 10. A weak strumous child. Examined July 9, 1877. Two ulcerating mollusca upon neck, small ones on chin. A red spot on breast where one came 6 months ago, and disappeared by ulceration a month ago. Has four warts on the left hand.

XIV. Mary T., æt. 8. Ten or twelve mollusca on chin in differen stages of development and decline. Several are minute, two are typicalt and two consist merely of blackish scabs upon an inflamed base. According to the mother, her three brothers are unaffected, and no children residing in the same house have had anything like it. Before the mollusca made their appearance six months ago, the child had seven warts on right middle finger. Whether these were mollusca or ordinary warts, the mother can not positively say.

XV. Edward C., æt. 6 months. Ten mollusca on right temple, two of which have coalesced, five on scalp, one on left ear, two on left temple, one on shoulder, one on left hand, all of two months standing. A brother who died a year ago, had the same. A little girl in the same house has one that has recently come on forehead, but four of Mrs. C's children are free.

XVI. Ellen McK., æt. 7 months. Two mollusca upon scalp, one on the ear and two near eye. There are eight families living in the same house, with a full quota of children, but no history of contagion. The mother has warts on her hands, and says she has always had warts since a girl.

XVII. Joanna H., æt. 21 months. A pale and sickly infant. Three mollusca on chin, and marks of three more which have existed beneath the chin, two near right eye. Has had them four or five months. Those which disappeared became of a dark red hue and withered. The child has a wart on its finger. Three other children in the family are unaffected. One of them however, has warts on the hand.

XVIII. Jessie McD., æt. 2. A fat and red-cheeked child. Five small mollusca around the mouth. An inflamed one, of pea size, on left side of

bridge of nose. These were noticed four months ago. About a year ago, the child had a wart on fore-finger, of which a red cicatrix remains. Mother thinks it was an ordinary wart, and not like the mollusca now on face. No history of contagion.

In the cases thus far given, the mollusca have been found to occur mostly upon the face. In the remainder of my cases it will be noticed that the eruption occurred solely upon the genitals. Molluscous tumors of this region have been regarded by some as differing from those upon the face and elsewhere, and the term condyloma subcutaneum has been applied to them. There is, however, no ground for any such distinctive name, as the molluscous tumors, wherever occurring, are identical in anatomical structure and external appearance. To be sure the genital tumors occur mostly in adult life, while the facial tumors are usually met with in infancy and childhood, but that mollusca may occur on the adult face, is shown by Cases I. and II., while Case IV. proves that it is not impossible to find the affection upon a juvenile penis. Though regarding these mollusca as identical in nature, irrespective of location, it will be found convenient in arriving at statistics relative to sex, age, etc., to separate them into two clinical classes, as follows: A, molluscum affecting the face and body, and commonly occurring among children. B, molluscum of the adult genitals.

XIX. An Italian patient in the Ven. Dept. of the New York Disp., with about fifty mollusca upon anterior half of penis. Two at the peno-scrotal junction. They were of two years standing, and easily destroyed by incision and cautery.

XX. Another Italian, with gonorrhœa. Two large mollusca of one year's standing, had coalesced on right side of sheath of penis, over the corona, on right thigh was another molluscum, corresponding in situation to the former, when the congested penis was placed paraliel with the thigh. This position of the mollusca suggested the idea of auto-inoculation, such as is occasionally observed in case of chancroid.

XXI. Gustavus B., æt. 18. Examined September 14, 1876, when patient applied with gonorrhœa, venereal warts, and a papular syphiloderm. Three months previously, and before any of these troubles began, he noticed five mollusca on the posterior half of the dorsum penis, which still remained unchanged. Six months previously, some large, so-called, "seed warts," came upon the back of his right hand.

XXII. Edw. D., æt. 21. February 5, 1877, patient applied for treatment of a stricture. About 10 small mollusca were situated upon penis and edge of mons veneris, varying in size from a pin's head to a grape seed. First

noticed them two months ago, since which time they have steadily increased in size. They itch a little, and once he made one bleed.

XXIII. J. L., æt. 24. Patient with chancroid and gonorrhœa. Has had four or five mollusca on penis during past year. A small one now on dorsum, which came four or five weeks ago. One on right thigh near base of penis. Had warts on hands a year ago.

XXIV. Wm. S., æt. 20. August 13, 1877. A small molluscum on dorsum penis over the glans. Says he pinched a large one off last week which had existed for several months. A wart on right little finger. Has had a half dozen or more within as many years. A few moles on body. An epithelioma was removed from the left side glans penis by Dr. F. N. Otis, at the Coll. of Phys. and Surg., last May. At the point where an inoculation was made upon the right breast, there is now a small, oval, reddish, hard lump, suggestive of incipient keloid.

XXV. Jno. G., æt. 22, October 19, 1877. A small molluscum on right thigh opposite scrotum. Came a few weeks ago after some moist papules on scrotum and penis. A small wart on thumb has existed over a year. Formerly had larger ones.

As to frequency of occurrence, molluscum may be said to be a rare affection. Those having charge of juvenile asylums or clinics for diseases of children, are far more likely to meet with cases than those who treat skin diseases in institutions mostly attended by adults.

According to statistical tables prepared by White, the affection occurs about once in every thousand cases of skin disease, whether in dispensary or in private practice. And yet the affection is without doubt far more common among the poorer classes than it is among the well fed and cleanly patients met with in private practice. This seeming paradox is made clear when we reflect that among the wealthy, every case of molluscum is presumably seen by the physician, while among the poor, a large precentage of cases are only driven to the dispensaries when the tumors become a source of discomfort or excite apprehensions of danger in the minds of the parents.

While one case is found among a thousand patients, old and young, who apply at a clinic for skin diseases, a much larger number will doubtless be found among a thousand children who apply at a clinic for children's diseases, especially if the affection is sought for, and not merely noted when complaint is made. As to the relative frequency of genital molluscum, it may be said to occur also in the ratio of one in a thousand. At least, the seven

cases reported above, were the only ones observed in as many thousand men whose genitals I have had occasion to examine in the male venereal department of the New York Dispensary. In none of these six cases did the patient apply for relief on account of the mollusca, these being treated incidentally, and in no case did I succeed in eliciting any history of contagion. As is well known, the affection occurs likewise upon the female genitals, and, for all I know to the contrary, with about an equal frequency.

Confining our attention now to the eighteen cases constituting the first group, we notice that five were infants, eight between the ages of three and ten, while five were older. As to sex, fourteen of the eighteen were females. This accords with a statement which has been made that the affection is more common among girls. In sixteen of the cases, the face was affected either alone or in connection with neighboring parts. The boy (Case IV.) had mollusca on body and on penis, but none on the face. The girl (Case V.) had mollusca only on the thigh.

Occurring upon the face, the tumors exhibited in many instances a tendency to congregate about the eyes, and occasionally about the mouth. The chin and neck were far more frequently affected than the cheeks or forehead. In a few of the cases the tumors were exceptionally located upon the ears, scalp and tip of nose.

There is one point connected with these cases of molluscum, to which I wish now to call attention, and that is the relation which this affection may possibly bear to ordinary warts.

In examining some of the more recent cases I was struck by the frequent co-existence of warts upon the hands of the patient or upon some member of the family. This I at first regarded as an insignificant coincidence. Later, in reviewing for the first time the notes of my cases, I was again struck by the numerous references to the co-existence of warts. In eight of the twenty-five cases, I find that I have noted the presence or past occurrence of warts upon the hands of the patient, while in four other cases mention is made of some playmate or member of the family being affected.

Had my notes of these cases been full instead of brief, or had

I examined patients with reference to this point, I think it probable that I should have noted the existence of warts in many more cases. Certainly in the few cases which I have examined since the idea of looking for warts occurred to me, I have not failed to find them in a single case. My friend Dr. Morrow, who has examined a number of molluscous children, tells me that he has noted warts on the hands in over three-fourths of the cases. Of course, warts are very common upon the hands of both young and old, and there is no reason why they should not co-exist with any skin affection. Nevertheless, in the cases I have reported, the co-existence of warts with molluscum would seem too frequent to be accidental, and I trust that any reader who may have an opportunity of examining many cases of molluscum will not neglect to note the existence or the non-existence of ordinary warts.

The etiology of molluscum, in spite of all that has been written, remains obscure. Although it occurs with much greater frequency among the poorer classes, it can not be considered as the offspring of poverty and uncleanliness. Damp and crowded dwellings may favor its development, as I have known a number of cases to occur in the same locality, and found by examination that direct contagion was not a probable cause. Ill health, though it may invite the morbid growth, is not always a factor in its production, for while most of the children I have seen were strumous or weakly, there were some upon whose faces not even the dirt could conceal the glow of health.

To explain the unexpected appearance of mollusca, verrucæ,

[NOTE.—With a view to determining the percentage of children who are afflicted with warts, my friends Dr. E. P. Williams and Dr. W. S. Conover, both of whom have charge of children's clinics at the New York Dispensary, were kind enough to examine for me 200 of their little patients, and the result proved that 30 out of the 200, or 15 per cent., were affected with warts. Dr. Conover examined 50 boys and 50 girls, ranging from 2 to 13 years of age; 8 girls were affected and 5 boys, and one little girl, who had mollusca upon the face showed the remains of a wart upon the finger. (See Case XVIII.) None of the 100 children had had warts previously according to statements of mothers, and of 4 cases where warts were reported as affecting other members of the family, 3 are included in the 13, showing perhaps a family tendency. Dr. Williams also examined 50 boys and 50 girls of a similar age, and found that 13 boys were affected and only 4 girls. One of the boys who presented 16 warts belonged to a family in which 6 other members were reported either to have or to have had warts. Of the 83 cases not affected, 19 are reported to have had warts previously. In an examination of over 200 adult males in the venereal department, I found that 23 per cent. were affected with more or less marked papillary growths upon the hands, while a number of others presented slight callosities, which upon dirt-begrimed digits are often difficult to distinguish from warts.]

and other innocent excrescences, we must admit on the one hand, an idiosyncracy or diathesis on the part of those affected, or on the other hand, a contagious principle.

The contagiousness of molluscum has long been the subject of discussion, and as yet the question is by no means settled. Let us now examine the data upon which any decision of the question must be based. Bateman's first case (1817) was a young woman whose face and neck were thickly studded with mollusca. "She ascribed the origin of this disease to contact with the face of a child whom she nursed, on which a large tubercle of the same sort existed." Two other children and a servant of the family were likewise affected. Upon these facts Bateman assumed a contagious element, and embodied the assumption in the name molluscum contagiosum. Caillault reports that a child was attacked by molluscum in one of the wards of the Hôpital des Enfants at Paris, and within three months, 14 of the 30 little girls in the ward were likewise affected. These facts, and other similar ones to which we all can testify, support an hypothesis that the affection is contagious, but they furnish no conclusive proof. In many instances of the affection, we find neither evidence nor even hint of a contagious nature. It seems to have a spontaneous origin in a given case, and the children who play with, sleep with, and wear the clothes of the patient, remain free. There may, indeed, be a parasite or other contagious element, but has its existence been demonstrated? No. The simultaneous or successive occurrence of several cases in a hospital ward, a tenement house, or a single family, though possibly due to contagion, may be explained upon other grounds. The strongest argument, however, in favor of a contagious nature, rests upon the statement of Retzius, who claims to have inoculated the growth upon his own person. Many others, it is true, have tried this, and failed, but no argument can be based upon such negative results. Here then, the case rests, and until the inoculation by Retzius has been repeatedly verified, or until a parasite or germ of some kind has been demonstrated, or until some further facts have come to light, we can not say positively that molluscum is or is not contagious.

If contagious, the affection can not, as far as degree is con-

cerned, be ranked in the category with scabies and ringworm. It seems to me, in this respect, to warrant a comparison with verruca. I do not know what the opinion of my readers may be, as to the contagiousness of ordinary warts. Many people certainly believe them to be "catching," and children, when afflicted, will often point out the very boy from whom they allege to have caught them. The text book writers pass lightly over, or are silent on this point. Tilbury Fox says, in speaking of warts in general, "they appear sometimes to be contagious." The same remark might be applied to mollusca, which "appear sometimes to be contagious." There are other points of resemblance in the clinical aspect of molluscum and verruca, which may have more than a fanciful interest. They are both apparently of local origin, and attack both the robust and the weak. They are alike in their uncertain etiology, and their indefinite duration, and finally they possess in common, that strange peculiarity of suddenly disappearing from no apparent cause. Considering then, these points of resemblance, and the frequent co-existence of the two affections, it seems to me, as I have already remarked, that the relation between molluscum and verruca is a subject worthy of investigation.

DOES ACUTE GENERAL DROPSY EVER OCCUR AS AN IDIOPATHIC DISEASE?

By J. A. Goldsberry, M. D., Annapolis, Ind.

Dr. Flint says that "dropsy is always dependent on some antecedent morbid condition; that it is never a primary affection; that it is, in fact, not a disease, *per se*, but only a symptom of disease."

Dr. Hughes Bennett says "that serous effusion, or dropsy, is always indicative of mechanical obstruction to the return of the blood from the capillaries through the veins." So far as I have any knowledge, this is the theory taught in all our text books on disease, and the belief of the profession generally. Of course it is no purpose of mine, in what I may say, to call in question the

fact, long since established by competent observers in the field of pathology, that acute dropsy, as a rule, is wholly symptomatic, and that it occurs as a result of some antecedent diseased condition. But the questions I would ask in all candor, and which I would be pleased to have answered to my entire satisfaction, are: Does it *always* depend upon mechanical obstruction? Does acute dropsy, characterized by general anasarca, always depend on that condition of the kidneys known as desquamative nephritis? Is it not possible, or indeed quite probable, that, now and then, the disorder may be, in every sense of the word, a disease; that it may exist as a primary or idiopathic affection, and that many of the cases of acute albuminuria, so-called, are not albuminuria, do not originate in renal disease, but have their origin in, and are dependent upon, some general constitutional irritation?

It is, perhaps, not very difficult for us to understand why serous effusion should be a prominent symptom in true acute Bright's disease, nor why it should exist in the chronic form of that affection, when the functions of the kidneys have become seriously impaired by destructive structural changes. Nor is it a fact difficult of solution that dropsy *may* follow, sooner or later, organic disease of the lungs, heart or liver. But when we come to treat of dropsy as an idiopathic disease, we confess that the serous transudation is not so easily accounted for. Is it certain that disease may not sometimes be mistaken for symptoms? and does it necessarily follow, because the pathology of certain morbid phenomena cannot be clearly made out, that therefore disease is not present? Certainly not. As already remarked, the profession may be said to be almost a unit in the belief that acute general anasarca is of renal origin, that it is absolutely the offspring of diseased kidneys.

But what is the nature of this disease? What are some of its pathological characters? Johnson tells us that it is an "acute inflammation of the membrane lining the convoluted tubes, and as a result, a prominent feature is the desquamation of the renal epithelium," hence the appropriate name, *Acute desquamative nephritis.* He regards the secreting cells as the primary seat of the local morbid disorder. "The obstruction of the tubes and the loss of the secreting cells, lead to the transudation of serum,

causing the albuminuria, and to the deficient elimination of urea, causing, in some instances, uræmic poisoning. The diminished density of the serum from the loss of albumen, together with the embarrassment of the capillary circulation from the retention of urinary principles, occasion the dropsy."

It is not necessary that I should refer to the anatomical changes presented by the kidneys, nor that I should detail the chemical history of the disease. I speak specially of one prominent feature or symptom, which, so far as I know, is invariably present, a symptom, by which, in every instance, the affection is characterized—I allude to the presence of albumen in the urine. In speaking of the disease in connection with albuminous urine, Flint observes, "The urine is found to contain albumen, usually in considerable, and frequently in great abundance."

Geo. B. Wood says, "The urine is highly albuminous; in some cases so abundant in albumen, that it is converted by the coagulation of that principle, into a uniform jelly; and the deposit, upon standing twenty-four hours after coagulation, seldom occupies less than one-third of the bulk of the fluid."

Roberts goes farther still, and declares that in some cases albumen may be present in such enormous quantities, that "the urine becomes quite solid on boiling."

Bearing in mind then, that acute dropsy, depending upon desquamative nephritis, is albuminuria; that in no case can the disease occur, whether it come up as a result of diseased kidneys, or as a sequel to some other morbid condition, without the presence of albumen in the urine, how are we to account for the cases of acute general anasarca or dropsy, so frequently met with, which are not characterized by the presence of this principle in the urine, and cannot therefore be of renal origin? It is a fact well known to every observant physician, who has had more or less experience in the treatment of scarlatina, that one of its most frequent sequels is general dropsy, and if we would accept the teachings of our books, we must believe that the serous effusion in these cases, is caused by vascular mechanical impediment, and that that impediment depends, primarily upon albuminous nephritis; in other words, that in scarlatinous dropsy we have precisely the same pathological condition of the kidneys which

obtains in acute albuminuria. My own experience with the dropsy of scarlet fever has been limited, and as some of the main points in the clinical history of the cases, of which, from first to last, I have had control, were not regularly noted, I cannot speak with positiveness as to the character of the urine. But in this connection I am fortunate in being able to call attention to authority which, to say the least, is, I think, entitled to our respect and earnest consideration.

As far back as 1814, Dr. Blackall, an English physician and author, reports in his "Observations on the Nature and Cure of Dropsy," the following cases:

"Case 1. M. T., æt. 12, was just recovering from scarlatina, in which the inflammation of the skin had been severe, and the bowels unusually relaxed. On the evening preceding my visit, the ankles and knees had begun to swell. There was a considerable degree of languor and loss of appetite; a quick and weak pulse; pain of the left side; a loose state of the bowels and swelling of most of the joints, particularly the knee, in the large bursa mucosa, above which there was very evident fluctuation. The urine was rather scanty, pale and without sediment. It was coagulable neither by heat nor nitric acid. True dropsical symptoms succeeded rapidly.

In less than a fortnight she became universally anasarcous, and there was fluctuation of water in the abdomen, with orthopnea and frightful dreams. At length she spent several successive nights in her chair, unable to lie down. It was impossible to entertain any doubt of the presence of hydrothorax. During the whole of this time the urine, examined daily, gave no appearance of coagulum. She finally made a complete and rapid recovery by the use of smart purges of jalap and scammony and Peruvian bark.

"Case 2.—S. S., æt. 45, Devon and Exeter Hospital. Considerable anasarca, with a feeble pulse and loss of appetite; urine pale, rather scanty, not coagulable by heat or nitric acid and depositing no sediment. Six weeks before, she had been attacked by fever and a scarlet eruption, to which her dropsical symptoms had succeeded in a few days. She derived immediate advantage from bitter infusions and alkaline salts and soon recovered."

Referring to these cases of Blackall, Royer says: "I have

known many similar ones, but as none have died, I have been uncertain as to the cause or mode of production of the dropsies." The existence of scarlatinal anasarca, independent of diseased kidney, is emphatically asserted by Barthez and Rilliet (see Traité des Maladies des Enfants) who state that they "have seen one fatal case, and established not merely by investigation during life, but also by examining the glands themselves after death, that the kidneys were not affected." Becquerel and Rodier insist that cases of dropsy following scarlet fever without albuminous urine are not rare." In the Dublin Medical Press for 1866, three cases of scarlatinous dropsy without albuminuria, are related by Dr. G. S. Smith. Dr. Stiebel, a distinguished German physician, states that he "has seen more cases of scarlet-fever dropsy without, than with albumen. If the average of observed cases of scarlet-fever dropsy be taken, it will be found that in not more than one-third of the cases is albumen present." Dr. Niemeyer, than whom there could perhaps be no higher authority, says: "The second form of scarlatinous dropsy, not accompanied with albuminuria, is a sequela of scarlet fever, as free from danger as it is inexplicable. It generally develops gradually, may become very extensive and is not limited to the subcutaneous cellular tissue. In some cases of scarlatinous dropsy without albuminuria, recovery takes place in a remarkably short time, as I know from personal experience." According to the testimony of authority already quoted, we may have, very rarely however, cases of albuminous nephritis, following scarlet fever, without dropsy. Simon says (see Simon's Chemistry, American Edition), we have dropsical symptoms with albuminuria, dropsical symptoms without albuminuria, and albuminuria without dropsical symptoms. Referring to dropsy in connection with scarlatina, and the facts above stated, H. C. Wood, in the *Am. Journ. of the Med. Sci.* for 1870, gives it as his opinion that inasmuch as it is established "that either dropsy or albuminous nephritis may exist alone after scarlet fever, but are in the vast majority of cases associated together; that either may precede the other; that they are often simultaneously and rapidly developed after exposure to a sudden malign influence—it follows, he thinks, that neither is the cause of the other; but that they are both the results of a common cause—a common irri-

tation." In the opinion of many, this theory doubtless would be open to criticism, but it seems to me that there is something rational in it and altogether consistent with the principles of pathology. I come now to speak of acute dropsy as a primary affection—as an idiopathic disease, if the term be preferable; and in doing so, I will summon to my aid facts obtained from the clinical experience of others who are much more competent to speak upon the subject under consideration than myself. Dr. Edward J. Seymour, writing as long ago as 1837, (see The Nature and Treatment of Dropsy), pretty accurately describes the most prominent features of the affection. His language is as follows:

"In some cases, after sudden exposure to cold and wet, the whole cellular membrane becomes infiltrated, the swelling is hard and tense, the pulse hard, the urine scanty and incoagulable by heat or acids, the heart beats without symptoms of organic disease though its action be increased, the bowels are costive, the effect likewise follows very rapidly on the cause applied; the patient's health has been good. There is in this state a general feverish excitement. The cure of this form of disease will generally be perfected in about ten days."

The following case was published, with clinical remarks, by Dr. W. R. Basham in the *London Lancet* for 1867. More reliable authority on any point relating to dropsy, it would, perhaps, be difficult to find.

"R. H., æt 26, admitted to hospital January 22. About a fortnight previously, having been exposed to wet and cold, he had chills, pains in limbs and fever and, a morning or two afterwards, suffered from difficult breathing, with swollen, puffy state of the face and of the surface of the body generally. On admission, the aspect of the patient was strictly characteristic of acute albuminuria. The face was puffy; the eyelids were œdematous, as well as the backs of the hands and the arms as far as the elbows; the surface of the chest was slightly anasarcous, but the dropsy was more pronounced from the thighs downwards. The respirations were hurried and the breathing movements short; a deep inspiration could not be taken. The breath-sounds throughout the chest were indistinct, and everywhere obscured by moist, wheezy mur-

murs. The resonance was equal in the corresponding regions of the two sides. The sounds of the heart were indistinct, and everywhere obscured by moist chest sounds. Pulse, ninety. He complained of a teasing cough, worse at night, and dyspnœa, coming on in paroxysms. The expectoration was bronchial mucus. There was free micturition, but the urine was scanty in quantity, very high colored, of a bright sherry color, and of sp. gr. 1022. Not a trace of albumen could be detected in it. Neither heat and nitric acid, nor nitric acid alone poured gently down the side of the tube so as to form a layer at the bottom, indicated the faintest trace; nor was any cloud produced by nearly pure alcohol. He was treated by purgatives and diuretics, and in nine days the dropsy had disappeared. The urine was carefully examined every day, but no albumen was discovered. A faint pericardial murmur was found in the heart. It was distinctly to and fro, but was unaccompanied by any pulse affection, which was from 70 to 80, or embarrassed breathing after dropsy was relieved. The pericarditis was believed to date back to a previous attack of rheumatism. The man left the hospital perfectly recovered, eighteen days after admission."

The following case treated and reported as one of idiopathic dropsy, by H. C. Wood, may be found in the *Am. Journ. of the Med. Sci.* for 1871:

"The patient was a lady of about forty years of age, whose family physician I had been for some years. She was free from all organic disease. About two years before, she had had a miscarriage, but, excepting at that time, and whilst she was suffering from some uterine cervicitis produced thereby, she had enjoyed good health ever since I knew her. Oct. 25, 1870, I was called to see her. During the summer she had suffered greatly from the excesssive heat, but had not been sick. For the last week or two her friends had told her that she was looking very full in the face, but she herself had perceived nothing until the previous Thursday, when, on attempting to put her shoes on she found her feet so swollen as to prevent her. By Sunday she was in the same condition as at present. Present condition: Face and legs very highly œdematous; trunk and arms very decidedly so. Face somewhat pale, but there are no marks of anæmia. Tongue contracted, firm

without teeth-marks. Heart-sounds normal; bowels normal; urine, according to her statement, passed in normal amount, limpid, free from sugar or albumen. Ordered, potass. bitart. ℥j. inf. juniperi oj. Take in 24 hours. 28th. Swelling gone from face; nearly so from feet. 30th. Patient well.

The following is a case of my own, whose clinical history, in almost every particular, corresponds with the two cases just cited:

On the morning of Nov. 15th, 1877, J. T., living several miles in the country, brought to my office his child, a boy about four years of age, for examination and such treatment as, in my opinion, he might need. The little fellow was quite bright and lively and seemed to be wholly unconscious of the slightest physical ailment, and had it not been for the very perceptible œdema of the face and hands, which at once attracted my attention, I would have thought any special examination of the case quite unnecessary. The eyelids and face were considerably puffed; the hands were swollen, the arms, however, were not affected. No anasarca of the surface of the body was observable. The feet were swollen and tense, and the legs more or less œdematous; no swelling of the thighs. The prepuce and scrotum were also involved in the effusion to a limited extent. There was slight cough, which seemed to depend entirely on bronchial irritation. Respiratory murmur plainly audible over both lungs; heart-sounds, distinct and normal. Respirations somewhat quickened. Pulse, 105; full and strong; tongue, very slightly furred. Urine, rather scanty, but in other respects apparently normal. Bowels, constipated. The child was fat and muscular, was well and compactly built, and was evidently the possessor of a fine constitution. On making inquiry as to his previous history, the father informed me that all his life long he had enjoyed uninterrupted good health, and not until the present attack of illness, which was noticed for the first time two or three days previous, had the child been sick even a single day. Nov. 17. The father called and reported the case not so well; he was certain that the swelling was rapidly increasing, with an aggravation of the symptoms generally.

Nov. 19th. I was requested to visit the patient; found him much worse. The anasarca had become general, and, in degree was absolutely frightful. The feet, legs and thighs, and hands

and arms were enormous in size, and by reason of their great weight, were almost useless.

The increased swelling of the face had almost obliterated the eyes, and the integument covering the body seemed stretched to its utmost capacity. The scrotum had grown to an incredible size and the penis was simply without form—an irregular, shapeless mass, having lost every vestage of its original identity. There was hydrothorax, marked and decided; effusion into the abdominal cavity not clearly made out; heart-sounds scarcely perceptible; respiratory murmur very feeble, with exaggerated bronchial respiration. Breathing rapid; a moist, wheezing harrassing cough with paroxysms of dyspnœa not unlike the paroxysms of asthma. Pulse, 120; temperature, 102°; quite thirsty. Bowels still disposed to constipation. No gastric disturbance of any consequence. Urine still deficient in quantity, very nearly natural in color, and with a specific gravity of 1,023. From time to time during the progress of the case, the urine was very carefully examined with heat and nitric acid, with always the same unvarying result—a complete absence of even the slightest trace of albumen.

The treatment of this little sufferer, from first to last, consisted almost exclusively, in the free use of purgatives and saline diuretics, and, notwithstanding the general character of the dropsy, the enormous quantity of the effused liquid, and the gravity of at least some of the symptoms, the patient, on the 20th, was evidently better, and so rapid was the convalescence, that on the 29th, only about sixteen days from the inception of his illness, every trace of swelling had disappeared; the heart-sounds were again distinct and healthy; vesicular murmur normal; cough almost entirely gone; breathing free and easy; in short, apart from some remaining debility, the recovery was perfect and complete.

In the last three reported cases can we, with due regard to the clinical history of each, charge the dropsy to renal disease? I cannot think so. Was the fault in anæmia? Certainly not, for in neither case was that condition present, even in a limited degree. Did the trouble depend upon lesion of the lungs, heart or liver? There were no evidences pointing to disease of any of those organs. Then if we are forced to exclude organic disease, whence comes the mechanical obstruction and upon what does it depend?

H. C. Wood, from whose article on acute dropsy (see *Am. Journ. of the Med. Sci.* for 1871) I have already drawn liberally, is of the opinion "that many cases of acute dropsies are due not to a mechanical impediment to the circulation, but to a peculiar condition of the cellular tissue, whereby its natural secretion or exhalation is enhanced, so that the water may be said to be actively thrown or drawn out from the vessels."

Is the theory of Dr. Wood correct; are his premises tenable? If so, I think it must be true that prior to the abnormal excitation of the cellular membrane, upon which, he claims, the effusion depends, there must have occurred certain morbid blood-changes, and that said morbid condition of the blood, whatever may be its nature, is the *direct* and primary factor in the production of the cellular irritation. If we admit the existence of acute dropsy, independent of organic trouble, does it not follow as a necessary sequence that we must admit the correctness of the idiopathic theory? And if this latter theory is accepted, upon what principle are we to account for the serous infiltration? On what particular pathological condition does the effusion depend? In the solution of this question I am free to admit that I have no theory to advance.

A CONSIDERATION OF SOME OF THE ERRORS INCIDENT TO THE ORDINARY METHODS OF DETERMINING THE RELATIVE LENGTHS OF THE LOWER EXTREMITIES,

With a Description of an Instrument Designed to Secure an Approximation to Precision in such Measurement.

By John Bartlett, M. D.

(*Summary of a paper read before the Chicago Medical Society, March 4, 1878.*)

The anterior superior spinous processes of the ilium, are ineligible as points of measurement, because practically, they are not determinable with precision.

The umbilicus is objectionable in that it may incline from the median line.

By the weight and pulley method of treatment of fracture of the thigh, the pelvis is inclined toward the injured limb. This inclination of the pelvis is equivalent to abduction of the thigh. To approximate the sound limb to the injured one, under such circumstances, is to adduct it.

As frequently dressed, the injured thigh is in a state of slight flexion.

A lower extremity in abduction, measured from the iliac spine, as contrasted with its fellow lying in true line with the pelvis (with the inner margin of the heel on the median line), has the appearance of being shortened in a measure, bearing a direct proportion to the degree of abduction. Thus, if the limb be abducted one foot (measuring the degree of abduction on a line drawn from the inner side of the heel, perpendicular to the median line), the apparent shortening will be three quarters of an inch, nearly. If it be abducted two feet, the apparent shortening will be one and a half or two inches.

Measured from the spine, a limb in adduction contrasted with its fellow measured when at the median line, presents one quarter of an inch of lengthening for six inches of adduction, and three-eighths of lengthening for one foot of adduction, approximately.

Measured from the umbilicus, a limb in abduction, as contrasted with its fellow lying at the median line, appears to be lengthened for one foot of abduction eleven-sixteenths of an inch; for two feet of abduction nine-sixteenths of an inch, nearly.

A limb in adduction, measured from the umbilicus, as contrasted with its fellow at the median line, appears to shorten rapidly; about one and a half inches for one foot of adduction.

A limb slightly flexed upon the pelvis, contrasted with its fellow lying in line with the body, whether measured from the umbilicus or spine, appears to be shortened in proportion to the degree of flexion, the amount being about one-eighth of an inch for one inch of elevation of the heel, two-eighths for two inches of elevation, and three-eighths for three inches.

Errors in measurement are apt to arise from the varying degree of rotation of the limb inward or outward, and when the measurement is taken from the sole of the foot, or by passing a loop

about the foot, marked errors may arise from the varying degrees of extension of the foot at the moment of measurement.

If the sound limb, when used as a standard of measurement, does not lie in a line with the pelvis, but in adduction, a combination of errors arises, and the injured extremity will appear lengthened or shortened by an amount equal to the sum of the errors of abduction and adduction.

The instrument designed to eliminate these errors, consists of a pelvic arc of wood, intended to span over the pelvis, and to rest by its lower concave edge on the iliac spines. On its inferior face, this arc is marked from centre to extremities in inches, in order that it may be set as a base line on the spines, so that its centre shall be equi-distant from each, and so that a tangent drawn parallel to the ends of the arc, may be parallel to a line passing between the spines. Projecting perpendicularly from the lower surface of the arc, is a thigh piece, curved somewhat backward, that its inferior end may rest upon the bed, and connected to this by a knee-joint, is a leg piece extending some inches below the feet. This leg piece has moving up and down upon it, by means of a screw, a rule graduated in inches from the centre outwardly, and adjusted in exact parallelism to the supposed tangent of the arc, to which reference has been made. Upon this rule slide "riders," which, when a measurement is being taken, are brought directly beneath the point of intersection of two lines drawn upon the soles of the feet, the one transverse, directly under the ankle joint, where the movements of the foot in extension and flexion are least appreciable, the other marking the central line of the sole.

The portion of the instrument thus far described, may be termed the measuring piece, the part to be mentioned may be called the base.

For any purpose of accuracy, more definite, determinate points of measurement should be taken than those furnished by the iliac spines. As a more suitable bench mark, corresponding points upon the upper margins of the crests of the ilia are chosen, upon which to apply the base of the instrument. This, a kind of body yoke, consists of two rectangular wooden plates adapted to the sides of the abdomen, held in position by a girdle of iron

rods, and thrust firmly down upon the iliac crests by tension of the thoracico-humeral muscles communicated by crutch-pieces, the extremities of which bear upon the upper margins of the side-plates. Jutting outwardly from the lower edges of these plates, are discs of metal to which the ends of the arc piece of the measuring portion are immovably clamped.

The instrument having been secured upon the pelvis by the means just detailed, the thigh and leg pieces take position between the limbs of the patient, with the rule resting below the feet. The degree of abduction of the injured limb being read upon the rule, the uninjured extremity is placed in a corresponding position not only of abduction, but of flexion and rotation. The limbs being thus symmetrically adjusted, the rule, by the slow windlass motion, is approximated to the soles of the feet, till the edge of one of the riders impinges against the point of intersection marked thereon. The distance at which the opposite rider stands from the measuring point on the sole of the foot of the shorter leg, will be the difference in the lengths of the limbs required.

In view of the objections to the use of points of measurement for the lower extremities apart from, and out of the axis of, the limb, it would be better to select one as nearly as possible over the centre of motion of the femur. Such a point may be determined on the sound side with a good degree of accuracy, in the manner to be described; and a corresponding point on the injured side may be located by comparative measurement. Flex the thigh upon the pelvis, and mark with India ink or nitrate of silver, a line corresponding to the fold of the groin, indicating the line of hinging of the thigh on the body. Then choose a point of provisional measurement, from which the limb will give the same measurement at convenient degrees of abduction and adduction. Such a point is found on a level with the iliac spines, and about midway between the "spine" and the median line. Adduct the limb some inches, and trace on the abdomen with India ink and pencil, the line which the tape makes from the provisional measuring point, a few inches downward. Then abduct the limb carefully, avoiding errors of rotation and flexion, the eye meanwhile resting on the tape measure, at the ankle or foot, as it indicates, first

lengthening and then shortening. Abduction must cease exactly at the point where the tape gives the initial figure of measurement, that is, where the limb in abduction measures the same as at the beginning, when resting in adduction.

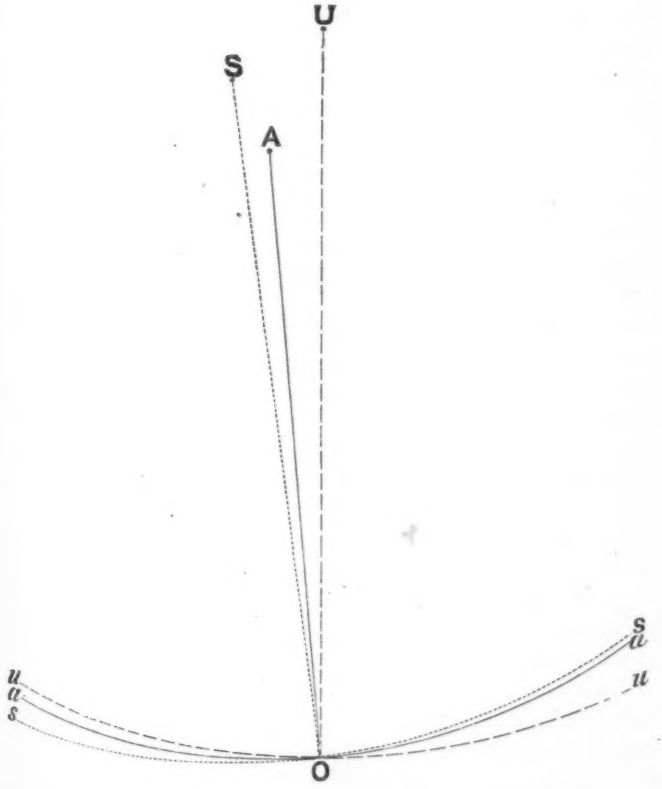
The course of the tape in this position must now be traced from the provisional centre of motion. The angle formed by this line, with the one just drawn, is bisected, and the point at which the bisecting line intersects the groin line, lies over the centre of motion of the hip joint. Measurements from it may be taken without regard to the relative positions of the limbs in abduction or adduction. Instead of bisecting the angle formed by the tape line as a radius moving about the point of provisional measurement, the chord of the arc described by the heel in the change from adduction to abduction may be bisected upon a thin board placed under the heel. While the limb rests on the bisecting line, the tape stretched between the provisional point and the point of original selection at the extremity of the limb, will intersect the groin line over the centre of the head of the femur.

A corresponding point in the opposite groin is determined by comparative measurements from the lower line of the groin, the pubis, iliac spines, and the umbilicus. The two points thus obtained may be utilized in this way: The two ends of a twine tied at its middle into the ring of a tape-line, are held by an assistant one upon either spine, the one or the other being lengthened or shortened, as may be necessary to enable the surgeon drawing upon the tape, to place its ring exactly over the centre of motion point. This being effected, the measurement of the sound limb is taken and noted down. The ring of the tape-line is then placed in position over the centre of motion on the injured side, and corresponding measurements are made.

The above plan of finding a point over the centre of motion, is tedious and troublesome, and is far less convenient, and perhaps not more correct than this simple procedure: trace a groin line as directed above, and intersect it by a line drawn parallel to, and on the outer side of the femoral artery, distant from its central line the mean width of the index finger of the patient. The point of intersection of this, with the groin line,

for practical purposes, may be regarded as over the centre of the head of the femur.

The facts given in the preceding summary may be illustrated by the accompanying geometrical diagram. The points A, S, U, O,



represent the relative positions, as taken from the skeleton, respectively, of the centre of motion of the hip joint, of the anterior superior spinous process of the ilium, of the umbilicus, and of the inner edge of the heel. The radii AO, SO, UO, represent, the former the limb, and the latter two, measurements as taken from the "spine" and the umbilicus, respectively. Any imaginary line joining the several centres with any point in the

solid, dotted or dashed curves may stand for the position of the limb, or of the tape from the spine or from the umbilicus respectively.

It will thus be seen, by contrasting the three circumferences, what relation any points of measurement, whether in abduction or adduction, or from the spine or umbilicus, bear to the radius representing the extremity.

Thus it is apparent at a glance that in abduction the dotted circumference denoting measurement from the spine to the extremity of the limb on the median line falls beyond the solid curve representing its actual length; whereas in adduction it falls short of this curve; indicating, in the one case, that measurements from the spine, the limb being on the median line, applied to a limb in abduction will fall beyond its extremity, and cause it to appear shortened; whereas, if applied to a limb in adduction it will fall short of its extremity, and cause it to appear lengthened.

And so as to measurements from the umbilicus, it is seen, that in abduction the dashed curve, indicating measurement from the umbilicus to the extremity of the limb on the median line, falls short of the solid curve representing its actual length; whereas, in adduction it falls rapidly below it, indicating, in the first instance, that measurements from the umbilicus, the limb being on the median line, applied to one in abduction will fall short of its extremity, and cause it to appear lengthened, whereas if applied to a limb in adduction, it falls far beyond the extremity and causes it to appear much shortened.

The diagram is a graphic portrayal of the possible errors incident to the attempt to make comparative measurements of two radii, the extremities, free to move about their separate centres, by the comparison of other radii having different lengths and different centres of motion.

DANGER FROM THE HYPODERMIC INJECTION OF MORPHIA.

By E. Fletcher Ingals, M. D., Chicago.

In the August number of this journal, in connection with three cases reported by Dr. E. Wenger, of Gilman, Ill., I presented the history of a case illustrative of the danger which sometimes attends the hypodermic injection of morphia.

In reply to this article, a communication from Dr. John McLean, of Du Quoin, Ill., appeared in the November number, which induced me to make further inquiry upon the subject. Accordingly, I addressed circulars embracing the following questions, to eighty representative physicians of the northwest:

"Have you often given hypodermic injections of morphia?"

"What is your ordinary dose of morphia when used in this manner?"

"Have you ever seen syncope or other unpleasant results follow its administration by this method?"

I have received replies to fifty-five of these circulars. Nearly all of my correspondents had used hypodermic injections often, in doses varying from $\frac{1}{16}$ to $\frac{1}{2}$ of a grain, and in exceptional cases one grain. The majority were accustomed to give from $\frac{1}{8}$ to $\frac{1}{4}$ or even $\frac{1}{2}$ of a grain. Two recommended from $\frac{1}{16}$ to $\frac{1}{2}$ of a grain. Three did not exceed $\frac{1}{8}$ of a grain.

A few stated that they were accustomed to combine atropia with morphia for hypodermic use. Thirty-four, of the fifty-five, had seen no unpleasant results, and six had seen nothing worse than abcesses at the point of introduction.

The unpleasant results observed by the remaining fifteen are well worthy of our attention, and ought to lead us to greater caution in the use of morphia in this manner. When this drug has been taken into the stomach, there is still a possibility of removing a portion of it, and doubtless, as the system comes gradually under its influence, absorption is more and more impeded, so that the danger from any which may remain in the stomach, is con-

stantly diminishing, and time is allowed for treatment adapted to such cases. If morphia is introduced by the hypodermic syringe, it passes speedily, if not directly into the circulation, and may overwhelm the nervous system by toxic effects, which the physician will have neither time nor means to counteract. It is not unlikely that the most unfortunate experiences were among those who made no reply to my inquiries; still I have received reports of seven fatal cases from morphia used subcutaneously. Had the same dose been given internally, there is reason to believe that six of these would not have occurred, and possibly the seventh might have been saved by proper treatment.

I have no desire to limit the use of a remedy which does so much to alleviate human suffering; neither do I care to discourage its subcutaneous administration, provided it can be so used with safety; but I wish to point out the danger of serious effects, to those who from long use without accident, have come to believe the hypodermic injection harmless, and to those who have not thought of its dangers.

I have no doubt that a minute dose of morphia would be harmless, even if injected directly into a blood vessel; but I fear it would have little effect in relieving severe pain, unless frequently repeated. Even the $\frac{1}{12}$ of a grain is not always devoid of danger, and a fatal case from $\frac{1}{5}$ of a grain of morphia, combined with one $\frac{1}{75}$ of a grain of atropia, shows that it is not safe to rely on the antagonistic effects of the latter.

The results of my inquiries seem to leave us no other choice than reasonable doses by the stomach, or the frequent repetition of *very small doses*, hypodermically. The method is of little importance, provided it is safe and agreeable to the patient.

In two of the seven fatal cases reported, the amount of morphia administered was not ascertained, though it was believed not to have exceeded the ordinary dose. In the other cases, the doses and the condition of the patients were given, but I am not at liberty to report the cases fully; however, as my information was derived from men of large experience and recognized ability, I can vouch for its accuracy. The names of my correspondents are withheld for obvious reasons.

One reports two deaths, one of which was caused by the subcu-

taneous injection of $\frac{1}{5}$ of a grain of morphia, combined with $\frac{1}{75}$ of a grain of atropia.

Another reports two deaths, one from two doses of morphia, of $\frac{1}{3}$ of a grain each, with an interval of four hours between the first and second doses. In this instance the morphia was given to relieve the intense pain attending invagination of the intestines. Death from narcotism ensued six hours after the second dose. The other death reported by this physician, resulted from $\frac{1}{4}$ of a grain given in a case of sciatica. The patient died comatose within five hours.

Another reports a death caused by two doses of $\frac{1}{4}$ of a grain each; the first given internally.

The sixth case was that of a patient upon whom ovariotomy had been performed. Shortly after the operation, this patient was given subcutaneously, ten minims of a saturated solution of morphia, which amount was repeated five hours later on account of pain; in fifteen or twenty minutes the latter dose was followed by profound narcotism, and within two hours death ensued, notwithstanding persistent use of the most approved treatment. In this case the exact dose was not known, but, considering the ready solubility of morphia, it probably equalled, and may have exceeded $1\frac{1}{2}$ grains. The physician who gave me the notes of this case, found that ten minims of water at 60° F., would dissolve $1\frac{1}{2}$ grains of morphia, while at 160° F., it would dissolve $6\frac{1}{2}$ grains.

The seventh case I give as reported to me:

"I was called to see Mr. B., who lived seven miles away, at 8 o'clock p. m., and I found him suffering from myalgia of the muscles of the back. I at once administered one-sixtieth ($\frac{1}{60}$) of a grain of sulphate of atropia hypodermically; after waiting till dryness of the throat and other constitutional symptoms showed themselves, and finding it gave him no relief from pain, I gave him $\frac{1}{4}$ of a grain of morphia by the mouth. In three quarters of an hour from the time I gave the morphia, the man was still groaning with pain, and then I gave $\frac{1}{4}$ of a grain of morphia hypodermically, which soon quieted the patient. Not suspecting any unpleasant effects from the medicine, I took my departure. In a couple of hours I was sent for to see the man, who, the

messenger stated, 'was in a deep stupor.' Upon my arrival I found Drs. L—— and J——, who lived only three miles distant. The patient's breathing was stertorous, and there was complete narcotism. Dr. J—— stated that the pupils were not contracted when he arrived. He had given atropia hypodermically, and was using electricity. The latter was kept up as well as artificial respiration, till the patient died, which was about twelve hours from the time the morphia was given. I have given morphia hypodermically a great many times, and repeated $\frac{1}{4}$ grain doses as often as every twenty minutes, but never before saw any such effect as was produced in this case."

In order better to illustrate some of the effects which follow the hypodermic injection of morphia, I quote from the replies to some of my circulars.

"I think there is always more or less danger from the use of morphia in this way, so have almost discarded its use."

"I am chary of the use of the syringe; using it when demanded—dose gr. $\frac{1}{8}$. Largest dose ever ventured on was gr. $\frac{1}{3}$ (in violent colic.) The patient was asleep in one minute, and did not awake for sixteen hours. No bad results."

"I have seen unexpectedly severe effects on several occasions. I do not give morphia in that way, when I can give it by the stomach. The effects that I speak of were simply severe ordinary effects of the medicine."

"No syncope, but in my experience results have been so uncertain and unexpected, that I now never resort to the surgical operation to introduce medicine, when the patient can swallow or has the use of the rectum. I should as soon think of introducing food as a regular thing by transfusion of blood. Put me down as opposed to the practice, save in exceptional cases."

"Once after $\frac{1}{6}$ of a grain, syncope occurred in about fifteen minutes after administration; was given in a case of cholera morbus."

"One case, the patient slept twenty-four hours. * * * The dose was only $\frac{1}{12}$ of a grain."

"But once, gave $\frac{1}{3}$ gr. to adult male (in case of compound com-

minuted fracture of tibia and fibula), to ease pain. While administering injection, sudden collapse and dyspnœa, with fluttering heart. Rallied under ammonia and whisky." * * *

"In the case of an old lady nearly eighty years of age, there was almost instantly after the injection a frightful degree of numbness, as she expressed it. (The dose gr. ¼.)" * * *

"Have seen alarming syncope in three cases, great prostration in a score at least." * * *

I know of no precaution which will render the hypodermic injection of sedative doses of morphia entirely safe; the medicine may be given in this way a thousand times without harm, but the next time it may be the cause of death. Nothing in the patient's history or general appearance can warn us of the danger, for we find fatal accidents among those who have formerly taken morphia with the happiest results. The danger seems to arise from rapid absorption, or injection directly into the circulation, and it is greatly enhanced by the impossibility of removing the poison.

All are familiar with the rules laid down for the cautious use of the hypodermic syringe, i.e., to withdraw the point of the syringe slightly after the needle has been introduced as far as desired, to inject the solution slowly, etc.; but these are not sufficient to insure us against accidents.

Withdrawing the point of the syringe will not necessarily prevent the solution from passing directly into the circulation; and as to injecting slowly, probably no one would think of occupying more than five or, at most, ten minutes in the operation, which would not be long enough to prevent accidents from rapid absorption. So far as danger is concerned, the hypodermic use of morphia seems to stand in much the same relation to its administration by the stomach, as the inhalation of chloroform does to that of ether; either method may be fatal, but the latter seems much the safest.

It is difficult for those who have administered morphia subcutaneously for years, without accident, to realize that there can be danger from the practice; and so is it with chloroform, but we all know that accidents happen from this drug in the hands of

the most cautious and skillful surgeons, and considering the large percentage of these fifty-five physicians who have had unpleasant or fatal results from the hypodermic injection of morphia, it would not seem strange if extended and accurate statistics should prove this practice almost if not quite as dangerous as the inhalation of chloroform.

HOW TO SAVE THE PERINEUM.—A NEW USE OF THE OBSTETRIC FORCEPS.—AN IMPROVED INSTRUMENT.

(Remarks made before the Chicago Society of Physicians and Surgeons, April 8, 1878.)

By Edw. Warren Sawyer, M. D.,

Lecturer on Obstetrics and Diseases of Children, Rush Medical College, Chicago.

Mr. President and Gentlemen:—The remarks which I have to offer, relate to those labors in which the vertex is in advance, and only to that stage of labor when the head has almost passed through the bony portion of the obstetric canal, but is still opposed chiefly by the woman's soft parts at the floor of the pelvis, and the outlet of the canal.

It will perhaps elucidate the point I hope to establish, if I may be permitted to describe the manner in which the forces of the woman will complete the expulsion of the head, if no interference is offered by the attendant.

At the moment we speak of, the antero-posterior diameter of the fœtal head approximately corresponds to the same diameter of the parturient canal. In the great preponderance of labors, the back of the head looks upward—the woman being upon the back. A little further advance brings the vertex to look through the vulvar aperture, and the nape of the neck in contact with the inner surface of the pubes; while that part of the occiput just inferior to the protuberance, is lodged against the sides of the pubic arch. The occiput is too broad to be received into the pubic arch as far as its summit, as one may convince himself by

sweeping the tip of the finger between the inferior border of the symphysis and the head, during the expulsion of the latter.

Till this time the fœtal head has been in a state of flexion; but, when the occipital plane becomes arrested against the pubic arch, the frontal part of the head receives the propelling force more directly, and is soon in advance. The head is now made to describe a movement of extension, or evolution, by which it becomes unfolded into the world, around the point of the pubic arch, against which the occiput is lodged, as around a pivot.

Two forces operate to produce this extension. The propelling power of the uterus, and its auxiliaries, the *vis-a-tergo*, advance the head until the larger portion of the forehead looks over the margin of the perineum. When the soft-parts become still further distended by the fœtal head, the perineum draws itself backward over the face, urging forward successively the margin of the orbit, the malar prominences, nose, lips and chin, the part of the head to be freed last being that part which was lodged against the pubic arch. This retraction of the perineum is the second force which extends the head.

Such is an outline of the manner in which the head is delivered by nature. A movement which, while it succeeds in its object, at the same time jeopardizes the woman's soft-parts. This is even more apparent when we recall the successively increasing dimensions of the head which pass through the vulvar outlet. I have given the name pubo-facial diameter to that axis, one end of which rests upon the highest part of the pubic arch, while the opposite extremity is lost upon different parts of the face. Their names indicate the limits more exactly. The length of these several axes show the extent to which the vulvar aperture is opened to give exit to the head. Thus the pubo-frontal, $4\frac{1}{2}$ inches; pubo-malar, or nasal, $4\frac{3}{4}$ inches; pubo-mental, $5\frac{1}{4}$ to $5\frac{1}{2}$ inches. I believe it practically impossible for the vulva of the primiparous woman to be stretched to this degree without a rupture of the perineum occurring. I am aware that a primipara may be delivered of a large child and her perineum be left intact, but this is because the judicious interference of her attendant compelled the head to pass out in a shorter axis than nature can do if left to herself.

I have had an opportunity of an occular demonstration of the moment and manner in which the perineum was torn. Just as the upper margin of the orbits looked over the edge of the perineum, the little fold of mucous membrane known as the fourchette, or frænum, gave way; this tear was continuously deepened by the malar prominences and chin. This is, I think, the usual order. Writers have described, in exceptional cases, its first giving way at the center. But all agree that it tears on the median line.

I know some hold that it is the bis-acromial diameter, the shoulders, which causes the tear. But I cannot believe that the perineum left absolutely intact by the head, will be torn first by the shoulders, under the care which the woman always receives. Such an accident can always be averted by delivering the pubic shoulder first.

The interference which I would recommend, to anticipate the hazardous stretching of the vulva, is, in a word, of a nature to hold the head in a state of extreme flexion, and force it to pass through the vulva in a diameter a little superior to the pubo-frontal, and which has a length in the full grown child of about four inches.

I cannot assume that preventing the extension of the head at this time is an original procedure; only that its significance is not generally understood. Many practitioners interfere during this stage of labor, and really prevent the complete extension of the head. Thus, some hook the index finger over the chin through the woman's rectum. It would seem, at first sight, that they attempted just what we would prevent, that is, extension of the head; but really they accomplish what we have recommended; for the thumb of the same hand is pressed upon the perineum which is being bulged out by the forehead. In this way, with the face held between the thumb and finger, in easy cases, the sinciput is kept back.

Others apply the hand to the perineum in such a way that the commissure between the thumb and finger corresponds with the posterior commissure of the vulva. Judicious support, continuously supplied, is of the greatest advantage; but the object to be attained by this palmar pressure is not always understood; for I have often been told to hold the forehead back for a time to

allow the perineum to become thin, and the vulva more easily stretched. Possibly this is accomplished; but the greatest advantage comes from the flexion into which the head has, by this means, been forced.

In addition to holding the sinciput back with one hand, others attempt to tease the occiput forward, with the fingers of the other hand applied to the head just in front of the symphysis pubis.

Besides the objections to the introduction of the finger in the rectum, it can be said against all these measures, that they are not sufficient, in the majority of labors, to hold the head in a state of flexion.

I am assured that this can be most certainly and easily accomplished with the forceps. For a long time I have been using my short forceps for this purpose, with the most satisfactory results.

I have recently modified my forceps to make it more easily used for this purpose, viz: I have continued the pelvic curve forwards to the handle, giving the entire instrument a regular curve from the extremity of the blade to the end of the handle.* This curve assists the operator in giving a proper direction to his traction, and makes the instrument most useful for the operation which I will detail presently, at the same time that the general usefulness of the instrument as a short forceps, is enhanced.

Length of instrument, 10 inches; length of blade to lock, $6\frac{1}{2}$ inches; length of chord of head curve, $5\frac{3}{4}$ inches; widest part of blade, $1\frac{1}{2}$ inches; greatest distance between blades, $2\frac{3}{4}$ inches; distance between tip of blades, $\frac{1}{2}$ inch; weight, 7 oz.

NOTE.—The handle is to be seized in such a manner, that the palm of the hand looks upward; the hook of one blade will then rest naturally upon the lateral and extensor surface of the first phalanx of the index finger, and the other hook upon the corresponding part of the thumb.

* I have also added this curve to the long forceps; which, besides guiding the operator in making traction always in the right axis, is peculiarly adapted to those high operations where the perineum and coccyx do not allow the instrument to be directed backward to a sufficient degree.

Let us assume that the forceps is to be used to flex the head, and to hold it in a state of flexion. At this stage in the labor the woman is usually upon the back. Her position need not be changed, only to have the limbs strongly flexed, in the lithotomy position. Nor is it necessary for the operator's body to be in a line with the pelvic axis. The introduction and locking of the blades, is a matter of extreme simplicity. While the head is loosely held, the handles should be elevated, so as to nearly approach the symphysis. Choose the interval of uterine action. Now clasp the head firmly in the blades, and slowly depress the handles until the edge of the perineum is approached. It may be that one movement is not sufficient to flex the head; this is the more likely to result if the operator is overtaken by a contraction of the uterus. It is only necessary, in this event, to repeat the elevation and depression of the handles, and the operator will have the satisfaction of feeling the sinciput recede, when a moment before it was causing the perineum to bulge out in a most threatening manner.

The most important step in the operation remains to be mentioned. When the head has been flexed, the hold of the instrument should be relaxed, and the handles elevated to that degree that the general axis of the handle is nearly perpendicular to the plane of the bed. It is in this position that the head is to be held, if the operator waits for the uterus to complete the delivery; and it is in this direction only that the operator lifts the head, if he sees fit to make traction.

If, in addition to this use of the forceps, the ends of the fingers of the disengaged hand are placed upon the head, in such a way that the convex surfaces of the nails rest upon the edge of the perineum, and, during the interval of uterine action, gentle efforts are made to tease back this edge, and to prevent it from being caught upon the advancing head, the operator has, by this conjoined manipulation, given the soft parts the greatest possible security.

Finally, in an exceptional case of posterior position of the occiput, which refused to rotate forward to appear beneath the pubic arch, I was able, by reversing the movement I have described, to lift the head into marked flexion, and to deliver a primipara of a large child without injury to the soft parts.

As injuries of the soft parts, I have, in the foregoing remarks, alluded particularly to those rents which are apparent upon an inspection of the perineum. But, it seems reasonable that the liability to those not infrequent tears of the mucous membrane about the outlet, would be lessened by the same measures which would prevent the dangerous distension of the perineum.

REPORT OF SEVEN CASES OF TRACHEOTOMY IN DIPHTHERIA AND CROUP, WITH TWO RECOVERIES.

By E. W. Lee, M. D., Chicago.

Case I.—Diphtheria.

At 2 a. m., August 29, 1877, I visited Nannie Keegan, aged 3 years and 10 months, a healthy looking well nourished child. The parents stated that she had been sick three days. Her condition at this time was as follows: extreme dyspnœa, the head thrown back, the epigastrium retracted, and all the muscles assisting in respiration called into full play; the skin hot, pulse 160, and countenance livid.

An examination of the throat revealed diphtheritic exudation on the fauces, velum, and tonsils, which appeared to extend deeply into these parts. A physician had been in attendance for a couple of days, employing the usual remedies without preventing the progress of the disease, and had finally expressed his opinion that further medication was useless, and the only hope of saving the child was in the operation of tracheotomy. As I fully coincided in this opinion, I immediately proceeded to operate, assisted by Drs. Hutchinson, Taliaferro, and Landis. After some delay, owing to hemorrhage, the tube was successfully introduced, chloroform being the anæsthetic employed. Immediate relief ensued, and the patient rallied finely. The pulse fell to 130, with a general alleviation of the distressing symptoms. The child passed a comfortable night, partaking freely of nourishment, and on my visit next morning, was in a favorable condi-

tion; pulse 120, and the respiration accelerated, but easy. About two hours after, I was summoned in haste, and on arrival found the child struggling with extreme dyspnœa, evidently dying. There was profuse expectoration of a sanious mucus, and crepitant râles were distinctly heard over both lungs. The tube was immediately removed, but without benefit. The child died within an hour.

The remarkable features of this case were the sudden accession of these unfavorable symptoms, and the rapidity with which they progressed.

Case II.—Diphtheria.

John Phalon, Irish, æt. 4, a stout, healthy looking boy, had been complaining of sore throat for three or four days. On my visit, Oct. 11, 1877, a.m., I found him playing about the house, apparently not in much distress. He had croupy cough, which had begun the day before, and his breathing was now becoming stridulous. On examination, found the tonsils and soft palate covered with a well-marked diphtheritic exudation. The pulse was from 120 to 130, the skin moist and respiration accelerated. The disease was evidently extending into the larynx. As none of these symptoms existed in an aggravated form, the case was deemed a suitable one for constitutional treatment. Accordingly the patient was put upon a solution containing iron, quinine, and chlorate of potassium. The disease made no apparent progress for the remainder of that day, and the next morning (12th) there seemed to be some improvement, which condition was maintained throughout that day.

Oct. 13th, a.m.—Condition about the same. In the afternoon the breathing became somewhat labored, and in the evening I was sent for, with the information that the child was suffocating. On my arrival, found him sleeping very quietly; stridor had disappeared, the pulse had fallen, and also, the respiration.

In explanation, the parents stated that he had vomited a large piece of tough, whitish-looking substance, which he held between his teeth for a moment, but swallowed on their attempting to remove it. Relief from the distressing symptoms was immediate, and the child fell into a quiet sleep.

Oct. 14th, a.m.—Child again playing about the house. Medicine continued at increased intervals. 15th.—All evidences of the disease had disappeared, and I ceased my attendance. 16th.—Was again sent for, and found the child in about the same condition as on my first visit. Active treatment was again resumed, and in addition the steam atomizer, with a solution of carbolic acid and chlorate of potassium and glycerine, was employed. During the day the child's condition gradually became worse. Bronchial râles were heard over both lungs. 17th, a.m.—No improvement; p.m.—Growing worse. 18th, a.m.—Greatly distressed; urgent dyspnœa; head thrown back, epigastrium retracted, countenance livid, the pulse rapid and feeble, asphyxia imminent. Tracheotomy was now advised as the only procedure affording any hope of relief.

After considerable hesitation, the parents reluctantly consented to the operation, which was then rapidly performed, the patient under chloroform. Drs. Bridge, Taliaferro and Landis assisted. Immediate relief was experienced on the introduction of the tube. Brandy, quinine and beef tea ordered. The child rested well during the remainder of the day, but the tube required frequent clearing of a thick, tenacious membrane.

Oct. 19th, 8 a.m.—Passed a comfortable night; pulse 133, respiration 36. The tube required constant attention. Treatment continued. 9 a.m.—Vomited for the first time the brandy and beef tea, which were given together. 11:20.—Condition so much improved that he sat up in bed and played with toys. He retained his medicine and nourishment. 12 m.—Coughed up a piece of membrane. 4 p.m.—Pulse 142, respirations 24 and noiseless; tongue moist and clammy. 6 p.m.—Had several fits of coughing, and a larger piece of membrane was expelled; also some tenacious puriform mucus. 9:15 p.m.—Coughed up a piece of tube-cast, $\frac{3}{4}$ inch in length, perfect in shape; also a considerable quantity of puriform mucus, with some shreds of membrane.

From this time, this muco-purulent discharge increased in quantity.

Oct. 20th, 8 a.m.—Passed a restless night. Increase of mucus in bronchi. Brandy had been given at lessened intervals. Stomach very irritable. Notwithstanding these unfavorable symptoms the

child rallied so that the pulse fell to 134, and respiration 36. This condition, however, lasted only an hour. The case now assumed a decidedly unpromising aspect, the pulse and respiration slowly rising. In 3 or 4 hours the breathing became so labored that the tube was removed, with the hope of affording relief. This failed, as the disease had evidently extended to the small divisions of the bronchi. Owing to the supporting treatment which had been zealously carried out, the patient's strength remained good till the last. He died by asphyxia, at 2 p.m., struggling violently.

Case III.—Membranous Croup.

Oct. 22, 5 a. m.—I visited Clara Nolan, Irish, æt. 7, spare habit, extremely nervous temperament, and poorly nourished. Had been complaining of "croup" for about two weeks, though playing about up to the afternoon previous. She was then taken with paroxysms of croupal dyspnœa. A physician was called, who administered an emetic of Turpeth mineral and employed the steam atomizer. These measures afforded temporary relief. At 4 a. m. the child's respiration became so labored that asphyxia was imminent. I was hastily summoned, and found the child nearly moribund; the head retracted, the epigastrum sunken, struggling violently for breath; pulse 160, resp. 40 to 50, and every evidence of severe nervous shock. On examining the throat there was no membrane visible. Hopeless as the case appeared, I determined upon an immediate operation. Chloroform was administered and the operation hastily performed—Drs. Taliaferro and Landis assisting. After the introduction of the tube, we supposed, for a few moments, that the child was dead, as she ceased breathing. Artificial breathing, however, restored her. The reaction in this case was very violent; pulse rising to 168, resp. 70, temp. 104°. Brandy, beef tea and quinine were freely administered.

Oct. 23.—A general amelioration of the symptoms occurred.

Oct. 24.—4 p. m. Increased obstruction of breathing. Being present I removed the tube, when a large piece of membrane was expelled by violent coughing. This, on examination, was found to be a little over a line in thickness, about 1¼ inch in length,

and ½ inch in breadth. The breathing immediately became easier and the tube was reinserted.

From this time the child slowly convalesced, though at times the pulse and respiration were accelerated to an alarming degree. This, however, we came to recognize as due to nervous influences. On the sixth day the tube was permanently removed, and a wire frame, covered with flannel, which was fitted to the neck to protect the wound, was worn until the latter healed. There were no unfavorable sequelæ and the child ultimately made a complete recovery.

Case IV.—Membranous Croup.

Nov. 16, 1877, p. m.—I visited Matthew Curran, Irish, æt. 4, a stout, healthy looking boy. His parents stated that he had been taken 36 hours previously with a croupy cough. On examination found pulse 140 and running up to 160 during the paroxysms of dyspnœa. Breathing was stridulous, and the cough characteristic. Dyspnœa was extreme; the attitude of patient the same as described in the other cases. An emetic of Turpeth mineral was administered, with some relief.

Nov. 10, a. m.—The breathing more laborious; râles quite distinctly heard over the chest, and a general aggravation of the unfavorable symptoms. It was evident that further medication was useless. On consultation it was deemed advisable to perform tracheotomy, which was accordingly done, with the assistance of Drs. Bridge and Landis. The dyspnœa was immediately relieved and the pulse fell to 130. The respiration, however, continued rapid. Beef tea, brandy and quinine were freely administered. The case apparently progressed favorably for 48 hours, when the respiration, which had continued rapid, became more labored. The tube was removed several times without affording any relief. The child struggled through the night, and died from exhaustion at 6 a. m. of the 20th.

Case V.—Membranous Croup.

Nov. 23, 1877, p. m., I visited Eddie Nolan, Irish, æt 4, in consultation with Dr. Landis. The child had been taken with croupal symptoms 5 days previously, and had been treated, prin-

cipally, with Turpeth mineral, according to Meigs and Pepper's plan, which stayed the progress of the disease for four days, giving hope of ultimate success. On the morning of the 5th day, however, the treatment failed to afford the usual relief, and the child's condition became rapidly worse. On my visit, the patient presented all the unfavorable symptoms detailed in the cases heretofore described. The patient's strength was so much reduced that an operation hardly promised success. The child being a brother of Clara Nolan, case 3, the parents were anxious that the operation be performed. It was accordingly done, Drs. Bridge, Taliaferro and Landis assisting. Notwithstanding the fact that there was not a trace of membrane to be seen in the throat when the trachea was opened, a large quantity of thick, softened membrane, which was blackish in appearance, was expelled through the opening. The operation relieved the dyspnœa for a time, but the respiration remained rapid. The tube had to be removed several times through the night on account of paroxysms of dyspnœa and coughing, when several pieces of discolored membrane were expelled, which always afforded momentary relief. The child was freely stimulated, but without effect, as his powers of absorption were evidently almost *nil.* He gradually sank, and died of exhaustion at 10 a. m. the next morning. During the periods when the tube was removed, membrane could plainly be seen through the opening in the trachea, and several pieces were removed by the forceps.

Case VI.—Membranous Croup.

Dec. 6. 1877. I visited Alice Turcell, æt. three and one-half, a remarkably fine and unusually large child for the age, who had been attacked three days previously, with croup. Her parents stated that she was subject to the affection, but that they had always succeeded in "doctoring her out of it." This time, however, the remedies failed. On examination, the child was found to be suffering from dyspnœa, stridulous breathing, and the pulse was 120 and the respiration 40. Patches of membrane were visible on the tonsils and fauces. Râles were heard over the chest. Emetics were used with marked relief, and I began to hope that an operation would not be necessary.

Dec. 7, p. m. Condition much improved. At 2 p. m., the unfavorable symptoms returned with all their former violence, and tracheotomy was now the only hope. At 6 p. m., assisted by Drs. Marshall, Taliaferro, and Meade, I performed the operation. Relief followed the insertion of the tube, and the child passed a very comfortable night.

Dec. 8th, a. m. Pulse 140, resp. 40. No change during the day.

Dec. 9th, a. m. Marked improvement occurred during night. Pulse falling over 20 beats, respiration 15.

Dec. 10th, a. m. No change and it now seemed that a successful issue might reasonably be expected; p. m., respiration slowly rising and the tube requiring more frequent cleaning. Pulse remained about the same.

Dec. 11th, a. m. Dispnœa became more urgent and the pulse 140. The child's strength remained good throughout the day, but she died from asphyxia, at 5 p. m.

Case VII.—Membranous Croup.

March 17, 1878, p. m., I visited Michael O'Rourke, 26 months of age, a well-nourished child of Irish parents, and was informed that he had been seized with symptoms of croup on the previous day. I found him in the following condition: Pulse 144, resp. 42, and stridulous, skin hot and dry, nostrils distended, dyspnœa marked and epigastrium retracted. There was no membrane in sight. Voice whispering. Ordered a solution containing chlorate of potassium and tincture of iron.

March 18, a. m.—I found an aggravation of all the above mentioned symptoms and I became satisfied that an operation would eventually be necessary.

Being satisfied that the operation is generally performed at too late a period to afford much chance of recovery, I advised that it be done in this case while the vital powers of the child remained good.

Accordingly, at 2 p. m., with the assistance of Drs. Bridge and Landis, I proceeded to operate, chloroform being the anæsthetic employed.

On opening the trachea a quantity of softened membrane was

expelled. After the insertion of the tube, the child experienced the relief usually obtained in these cases.

The pulse, immediately after operation, was 144, resp. 68, temp. 101° F. Iron, quinine and beef tea were ordered. During the day several pieces of membrane were expelled through the tube. 11 p.m.—Pulse 136, resp. 56. Child restless. 19th, 8 a.m. Pulse 128, resp. 44, temp. 100¾°. Passed the night comfortably.

Mar. 19th, 12 p.m.—Pulse 132, resp. 44. During the day several pieces of membrane were expelled. The child partook freely of nourishment and has rested quietly.

Mar. 20th, 8 a.m.—Pulse 128, resp. 45, temp. 100¾°. Passed a good night. 7:30 p.m.—Pulse 134, resp. 38, Child in good condition.

Mar. 21st, 8 a.m.—Pulse 112, resp. 46, temp. 99¾°.

Mar. 22d, 10 a.m.—Removed the tube, and as it was found that the child could breathe without, it was not replaced.

From this date the little patient made a rapid recovery.

REMARKS.—*The Operation.*—Chloroform was employed in all these cases. I think it better to use an anæsthetic, not only does it facilitate the performance of the operation, but it eases the breathing by relaxing spasm. From the first incision to the exposure of the trachea, need not occupy much time, but, unless in exceptional cases, the trachea should not be opened until all hemorrhage has ceased.

As large a tube as practicable should be used, small tubes are easily obstructed, and require such frequent cleansing, as to needlessly irritate the patient. Silver tubes are best. Rubber tubes lose the proper curve after being in use for a time.

The time to Operate.—If this operation be done earlier, the percentage of recoveries will undoubtedly rise; when long delayed, the chances are decidedly against a successful issue. While I think it ought to be done, no matter how desperate the condition, I would advocate an earlier resort to operative interference. Case III proves the possibility of success under the most unfavorable circumstances, as the child was almost moribund at the beginning of the operation. Case VI might, I think, have recovered had the operation been made 24 hours earlier. As it

was, the pulse and respiration fell so rapidly, as to lead me to feel almost certain of its recovery. Case VII was the only one where the operation was performed in reasonably good time, and the easy and rapid recovery made, would seem to impress the importance of an earlier operation. The strength was good, there was no need for alcoholic stimulation, and the condition steadily improved from the time the tube was inserted. It was not expected to find such a quantity of membrane in the trachea, as was discovered in this case. The child had shown the first croupal symptom but 48 hours previously, and although the respiration was rapid, it was not labored to a very marked degree. I was satisfied that operative interference would ultimately be necessary, and determined to give the little fellow all the chances of its early performance. My experience of the operation as a last resort, I think justified me in this. From the date of my first operation, I saw 9 cases where I advised its performance. In 2 the parents refused their consent—both died—in 7 I was permitted to act. I have come to the conclusion that when respiration has been difficult for some hours, without abatement, the voice husky, and other unfavorable symptoms present and corresponding, if an operation be in prospect, the longer it is delayed the less chance there is of success. Very often the treatment for the 24 hours previous to the operation, is largely instrumental in procuring an unfavorable result. Vomiting a child every 3 or 4 hours, to remove obstruction, is poor preparation for such an operation.

In case 5, although the breathing was rendered easy, the most powerful stimulation failed to rally the child, and the most that could be claimed, was that the operation rendered death comparatively easy.

Unity or Duality of Croup and Diphtheria.—As to the unity or duality of croup and diphtheria, I must leave its discussion in abler hands than mine. I think the facts are in favor of the dual theory.

Management.—The temperature of the apartment was kept from 75° to 80° F., and the atmosphere moistened by the use of steam atomizers. The inner tube was frequently cleansed and when that failed to remove the obstruction, a spray of lime water

and glycerine was directed into it. Frequently it was found that the patient breathed easier with the inner tube removed, in that case the outer tube was cleansed by means of a *dry* feather gently introduced and turned round so as to catch the obstructing substance. Failure to relieve obstruction always caused the respiration to become more rapid and in time the pulse also, hence the necessity for skilled attendants. The last six cases had constant medical attendance, and I take this opportunity of returning thanks to Drs. Landis and Taliaferro and Mr. Harold Moyer for their assiduous attention in aiding me in watching these little patients. Case III would undoubtedly have terminated fatally had there not been a competent person in attendance, as the obstruction in the tube could not be removed by the ordinary means.

Treatment.—The first six cases were operated on as a "last resort" and were all in feeble condition from the prolonged efforts at respiration and in some cases from the treatment. Brandy was freely used, also iron, quinine, beef tea, and milk in some cases. Considerable difficulty was experienced in having these remedies retained, the stomach being in a very irritable condition and the patient averse to taking either medicine or nourishment. In case III, any abatement in the stimulation was followed by a change for the worse in the child's condition. For the first three days, brandy was given three or four times an hour, besides the other nourishment.

THE HISTORY OF A CASE OF GUNSHOT WOUND OF THE BLADDER.

By Franklin Staples, M. D., Winona, Minn.

In part second, Surgical volume, of the Medical and Surgical History of the War of the Rebellion, page 265, under the general head of wounds of the bladder, and among cases reported as having recovered with persistent urinary fistula, is the following report:

"Case 781.—Private R. Butchers, Co. H., 72d New York, aged 20 years, was wounded at Mine Run, Va., Nov. 27, 1863,

and was treated on the field until Dec. 5th, and then transferred to hospital at Alexandria. Surgeon E. Bently, U. S. V., reported the case as a gunshot wound of the bladder mainly on the left side; ball removed on the field; simple dressings; discharged the service Oct. 14, 1864; disability total." The history of the case continues and the following appears in the pension examiner's report of examination Sept. 4, 1873, nine years after the soldier's discharge: "There is a large fistulous opening in the urethra in front of the scrotum, also a sinus behind the scrotum on the right side of the perineum which communicates with the bladder. There is evident necrosis of pelvice bones."

History of the case is continued in report of pension examination made Sept. 4, 1875, two years later. The description is as in last report, with addition as follows: "There is a recent fistulous opening in right gluteal region. This has occurred since the last examination."

The Biennial examination of pension examiner Sept. 4, 1877, gives, in addition to what has been given above, the following: "There is now a fistulous opening on the right side of the anus one and a half inches from that described above as on the right of the perineum, back of scrotum. Urine frequenly escapes from both these fistulae."

The object of this communication is to give the continuation of the history of this case as it has come under my observation, and to supply some facts wanting in the above account which help to render the case one of importance.

The ball entered the left groin, passed in front of the femoral vessels and nerve, entered the pelvis through the obturator foramen, passed through the bladder, through the centre of the ischium on the opposite side, lodged in the gluteal muscles on the right side and was removed therefrom by operation on the field. Ten months in the hospital at Alexandria, the first two or three months in bed with a catheter kept constantly in the bladder; urine discharged at each contraction of the bladder through the opening of the exit of the ball, an occasional discharge of small fragments of bone from same opening, with, at length, a cessation of these discharges, and for a time a complete closure of this opening, with patient apparently nearly well, brings the case

to the time of his discharge from the service. During the early part of the hospital treatment, however, while wearing the catheter, inflammation and abscess resulted in the large fistulous opening in the urethra in front of the scrotum. From the time of discharge from the service, Oct., 1864, to the autumn of 1871, no discharge from the wound, nor unnatural discharge from the bladder noticed, except at one time in 1868, after lifting he passed a little blood; the bladder sometimes slightly irritable with a tendency at times to void urine rather oftener than usual, the patient in fair health and able to work hard, makes up the history for these seven years. While riding on horseback in the fall of 1871, he first felt a painful swelling in the perineum; abscess, discharge and a permanent fistula resulted. The farther history is given in the reports of the pension examiner above, and extends through a period of seven years, during which time there were two perineal fistulae, besides the urethral fistula in front of the scrotum, with an occasional slight eruption from the old wound of exit in the gluteal region. He has been able to work on a farm during most of this time. On the 11th of Dec., 1877, a detached fragment was removed through the perineum by operation. It was evidently from the inner table of the body of the ischium on the right side, through which bone, the ball passed. Its size and appearance are shown in this cut.

In removing it, the two perineal fistulae were united by incision, making an external opening in size and location not unlike what would be made for the lateral operation for stone, only on the right side. The fistulous tract was followed and the fragment was found to be lodged above the deep perineal fascia near the prostate gland, where it had descended from its place of detachment. Another fragment of bone was now discovered evidently enveloped by a firm fibrinous deposit, and adhesions involving the prostate gland. It had caused a small opening into the prostatic portion of the urethra and sometimes could be felt by the sound as it passed this point. Its removal was considered impossible without inflicting a greater injury than its presence seemed likely to cause, the whole of the prostate gland being involved in what

seemed to be a fibrinous deposit around the foreign body. At the present time, two months after the removal of the piece of bone, the opening in the perineum has almost closed, and a little sense of fulness and irritation in the region of the neck of the bladder and prostate gland is now the only source of discomfort.

That such a foreign body as a necrosed spicula of bone could work its way from a distance, and, in its incomplete attempt to make its escape from the body, should, with so little harm, remain lodged in the substance of the prostate body, is worthy of record. Another point in the case is, that for nine years these fragments of bone, although detached at the time of the gun-shot wound, remained in their places without causing any suppurative inflammation, and at length becoming dislodged, abcess and fistulæ resulted. The whole case is one illustrative of nature's ability to guard against damage and repair injury.

THE Bureau County Circuit court, at Dover, Ill., recently disposed, in the March term, of a suit for damages instituted by a Miss Sansom, of Malden, against Peter Martin, formerly of the firm of Hopkins and Martin, druggists of that place. It was proven in court that the lady sent a small boy to the apothecary's for some arsenic, which she had been in the habit of taking for neuralgia. Soon after swallowing the usual dose of the material sent her by the druggist, the plaintiff became seriously ill, and was near dying in convulsions. She swore that these symptoms have since recurred on several occasions. The medicine was proved to be strychnia instead of arsenic. Suit was instituted, as before stated, and a verdict of damages awarded the plaintiff to the amount of $1,050. Such is the just recompense for the ignorance of a man who, in order to sell liquors, pursued the business of a druggist, and who, when upon the witness stand, could not tell how many ounces made a pound of apothecaries' weight.

Clinical Reports.

UNITED STATES MARINE HOSPITAL, SAN FRANCISCO.

Dermoid cyst.—Removal by knife.—Recovery.

Erichsen, in his work on surgery, devotes a short paragraph to the subject of dermoid cysts, and states in substance, that these tumors occur occasionally; that they are congenital, and usually contain fœtal *débris*, as bone, hairs, etc.; that, finally, they are most frequently met with in the abdomen, about the face, within the skull, and in the lung, but never in connection with the extremities.

The following case may therefore be of interest by reason of the rare occurrence of this form of tumor.

The patient, Jno. Peters, æt. 27, a seaman, was admitted to the United States Marine Hospital last November, suffering from a mild attack of scurvy. An inspection of his body disclosed an immense tumor in the lumbar region, elastic and compressible, measuring 25 inches in one diameter, and 16 inches in the opposite. The patient stated that the tumor had existed since birth, when it was the size of an orange, and had gradually enlarged up to the present time. It had given him no inconvenience, except by its weight, for which reason he anxiously desired its removal. The following month, the patient having meanwhile recovered from his scurvy, Surgeon-in-charge C. N. Ellinwood, tapped the tumor to ascertain the nature of its fluid contents, withdrawing about three pints of a chocolate colored fluid, which on analysis proved, *not* to be cerebro-spinal, hence showing no connection with the spinal cord. The tumor was then removed at its base by the knife and galvanic cautery. The

semi-solid contents remaining after the tapping, consisted of fatty matter and fœtal *débris*, principally hair, about 4 inches in length, growing from the interior of the tumor, the base of which was lined by a cuticular surface, studded with sebaceous glands, etc. The patient made a rapid recovery, and was discharged from the hospital, Feb. 16, 1878.

Diffuse popliteal aneurism.—Amputation of leg.—Recovery.

F. Grimes, æt. 32, colored, admitted to the hospital February 28, 1878, states that about two months ago, after more than usual exertion, he noticed a pulsating tumor in the left popliteal space. The tumor continued to grow in size, causing severe pains in the leg, but still the patient did not seek medical advice, but treated himself by using different liniments and patent medicines. Finally, about 10 days previous to his admittance, after sudden exertion, he felt something give way, and his leg became so much enlarged as to render him entirely helpless. On admission to the hospital, the left leg was found to be three times the size of the other, cold, brawny, and hard, the integument moreover showing strong signs of beginning mortification. In the popliteal space a tumor existed, which was solid and elastic, but without pulsation, confirming the diagnosis of diffuse popliteal aneurism.

The extravasation of blood evidently extending from the areolar tissue of the ham down to the foot, with no circulation in the limb by reason of the pressure of the effusion, and gangrene setting in, amputation of the leg remained as the only resource of saving the patient's life. Accordingly, Professor C. N. Ellinwood amputated the leg at the junction of the lower and middle third of the thigh. A dissection of the amputated leg showed complete obliteration of the popliteal vein, with disintegration of the deep fascia and muscles on the back of the leg, and complete rupture of the tendo achillis. The clots of blood within the aneurismal cavity, weighed five pounds. The patient, who is still under observation, made a splendid recovery, and will be discharged from the hospital this month.

EDWARD J. DOERING, M. D.,
Assistant Surgeon U. S. Marine Hospital Service.
SAN FRANCISCO, April, 1878.

NOTES FROM PRIVATE PRACTICE.

Cancer of Stomach and Liver.

Wm. C. J., aged 47, merchant, a resident of Nebraska, began to experience severe gastric pain in March, 1877. The attacks of pain recurred at irregular intervals, varying from two or three days to as many weeks; they were somewhat mitigated by moderate pressure, as in leaning over the counter; they were accompanied by considerable nausea and occasionally by vomiting.

No examination being made at the time, the disease was supposed to proceed from gastric irritation or dyspepsia; and for several months was treated in accordance with that supposition.

No improvement taking place, it was thought expedient that he should return to his old home in Illinois.

When first examined by me (Sept. 13, 1877) he complained most of distress from abdominal distension occasioned by ascites. The appetite was poor, but he had no nausea; pulse 80 to 84 per minute and weak. He was emaciated and feeble but able to walk about. Bowels regular (occasionally loose), urine natural in appearance, though inclined to be scanty.

His complexion was of that peculiar saffron hue common in patients where the cancerous diathesis obtains; how much this hue was dependent upon that diathesi in our patients, and how much upon obstruction of function in the liver, we may not now say. His disposition was cheerful and hopeful, expecting a speedy recovery, despite the unfavorable diagnosis — cancerous tumor in the vicinity of the stomach.

Palpation of abdomen revealed a nodular prominence about the size and shape of a walnut, three inches inferior to the ensiform extremity of the sternum; from this eminence a hard, irregular surface extended toward the left side, disappearing under the adjacent costal cartilage. Inferior to the left thorax, and on a line with the corresponding nipple the irregular surface could be distinctly felt.

Deep pressure revealed a smooth surface in the right hypochondriac region.

The abdomen was considerably distended by fluids which seemed to interfere with his appetite, and also prevented an extended dorsal decubitus.

The ankles and feet were very œdematous, pitting on pressure.

The treatment consisted at first in painting the integument over the tumor with the tincture of iodine (which was continued throughout this illness, whenever the condition of the skin would permit). Considerable relief seemed to ensue from these applications. Tonic powders of cinchona, lacto-peptine, bismuth, and lactate of iron, were also exhibited.

Sept. 17.—The ascites still continuing, diuretics were administered, and fomentations of digitalis leaves applied over the abdomen.

Sept. 22d.—Distress from abdominal distension still persisting, it was thought expedient to remove the fluid by aspiration. By means of Mathew's apparatus, about six pounds of amber-colored serum were removed, the puncture being made midway between the umbilicus and the symphysis pubis.

This operation afforded considerable relief to the patient, who was thus enabled to assume the dorsal decubitus, which had been impracticable for six months on account of the pressure.

Sept. 24th.—Appetite and digestion much improved.

Sept. 28th.—Is troubled with pyrosis, nausea, and subsequently by vomiting; these symptoms are much relieved when he lies in such a manner that the tumor does not press directly upon the stomach. No signs of reaccumulation of fluids in abdomen. As the patient seems much debilitated from weakness of the stomach and want of proper nutrition, rectal alimentation was resorted to by administering eggs, whisky, and beef tea, which seemed to revive the patient, materially improving his strength and general appearance.

Emaciation and absence of ascitic fluids, render it easy to examine the tumor, which has become less painful, and is easily moved in various directions, even by the patient himself. Numerous fissures could be readily detected traversing the tumor in various directions—the *sulci* between masses of cancerous enlargements.

Oct. 1.—Vomited matter slightly tinged with bile. This act

prostrated him exceedingly, and recurred every two or three days, rendering the patient still weaker.

Oct. 8.—Nourishing enemata fail—returning undigested. An excellent substitute was prepared in the following way: Two or three ounces of raw beef were thoroughly triturated in a mortar, slowly adding a little water, till nearly all the red portion of the meat had been dissolved out, leaving the white fibrous portion, which was separated from the former by straining through muslin.

To the solution thus prepared, pepsin was added; and the whole gently warmed and thrown into the rectum.

The beneficial effects of this mode of nourishment became manifest in less than an hour, proving to be very refreshing and strengthening to the patient. These injections were repeated every three or four hours.

On the 10th, the bowels moved in such a way as to exhaust him exceedingly. As he exhibited symptoms of rapid failure, and in order that he might survive until the arrival of his wife, it was deemed advisable to prolong life, if possible, by means of transfusion of blood.

Accordingly, on the 12th, Mr. O. E. Bowers, a strong, healthy soldier, who had upon two previous occasions furnished blood for a similar purpose, presented himself, willing to provide the requisite amount of blood.

With the assistance of Dr. C. T. Fenn, of Chicago, the operation was performed, after the immediate or direct method, as follows: The apparatus was first completely filled with warm water; an incision was then made into the right basilic vein of the donor, cording the arm above the point, a corresponding opening was made in the right basilic vein of the patient, without cording the arm. The transfusion apparatus was then adjusted by inserting the canulæ filled with water into the veins of donor and patient respectively. The rubber tube and bulb (filled with water) were adjusted to the canulæ (care being taken that air should not enter any portion of the apparatus). Compressing the donor's end of the tube, the water in the apparatus was forced into the patient's vein; compressing the patient's end of the tube, and allowing the bulb to expand, blood from the

donor was thus drawn into the instrument, and thrown into the patient's vein in the manner described above.

In this manner, three and one-half ounces of fresh blood were transfused, when we were obliged to stop the operation in consequence of some obstruction in the tubes.

The patient expressed himself as feeling stronger, better able to breathe, and to have acquired a new lease of life. The pulse, which before the operation, was very weak, subsequently became strong, full, and regular.

This sense of strength, however, soon began to die away—the pulse becoming almost imperceptible, until about ten hours after the operation, when he gradually revived again, and with unusual strength, proceeded to transact business affairs, greeting and conversing quite naturally with his wife and children, who had recently arrived, even then expressing great hopes of eventual recovery.

In two or three hours the bowels moved again, prostrating him exceedingly, and at 9 a. m. on the 13th, he vomited with great effort a very tenaceous, greenish matter, containing purulent masses. After this he sank gradually, without consciousness, dying at 3:10 p. m.

Autopsy, nineteen hours after death. No marked *rigor mortis;* great emaciation. Palpation and percussion revealed a tumor occupying the space already described, dullness on the right side, commencing at the sixth rib, on the left at the eighth.

On opening the abdomen, the tumor was seen to be an enlarged liver, extending over the epigastric region into the left hypochondriac. It was filled with a large number of white scirrhous masses, varying from the size of a grape seed to that of a large egg. Many of the larger ones projecting from the surface of the liver, presented points of commencing disintegration. One of these, immediately inferior to the ensiform cartilage, was quite prominent—easily examined during life. The intestines were empty, and at various points adherent to the inferior surface of the liver.

The weight of the latter organ was eight pounds nine ounces.

A large portion of the stomach, involving its pyloric extremity,

was firmly adherent to the liver, the pancreas and various adjacent tissues, including those investing the abdominal aorta and spinal column, the media of this union being tough irregular bands of cancerous tissue, firmly binding into one ragged mass, the organs and membranes mentioned. Considerable force was required to tear them asunder.

The tissue of the pylorus was transformed into a hard gristly tube, one and a half inches in length, through which the index finger could be thrust.

Right heart œdematous, valves normal; both ventricles contained large shreds or clots of white fibrin; spleen and kidneys, normal.

This case presents two or three points of interest:

The use of the aspirator in fluid accumulations in the abdomen. Attempts had been made to cause the removal of the fluid by exhibiting diuretics; we were partially successful in the use of apocynum cannabinum, but it was evident that the waning strength would not permit the long continued employment of this mode of treatment. Hence the necessity for this operation.

The utility of rectal alimentation, when functional or structural derangement of any portion of the alimentary canal exists, is fully demonstrated in this case. Two other cases have come under my observation, in both of which the prospect of recovery seemed very forbidding, owing to the extensive chronic gastritis, in consequence of which the system was insufficiently nourished. But by judicious preparations and use of raw beef, as above described, the diseased organ was allowed to rest, recovery ensuing within a few weeks, complete restoration of health and strength in the course of a few months.

The first of these cases was that of a farmer, who had induced a severe type of gastritis from excessive use of alcoholic drinks while residing near Rockford. He was sent to his home on the farm, incurable. When seen by me, on July 3d, 1875, the patient had been able for four or five months, to retain in the stomach but very little nourishment; even water, at times, excited emesis. He was very much emaciated. Giving only powders of cinchona, lactopeptine, and bismuth, by the stomach, nourishment was administered by the rectum. Symptoms of

improvement gradually appeared, and in a few weeks hopes of recovery were entertained. Continuing the above treatment persistently, the patient was discharged cured, Nov. 1st, 1875.

Transfusion. This operation, although incapable of serving as a means of recovery, prolonged existence so that the patient was enabled to adjust his affairs, which evidently could not have been accomplished otherwise. With due caution, the operation may be performed very easily, quickly, and safely.

I shall not hesitate to employ transfusion by the "direct method," whenever sufficiently indicated, as when death is imminent from anæmia or malnutrition.

W. L. RANSOM, M. D.

ROSCOE, March 23d, 1878.

A REMEDY FOR THE ERUPTION PRODUCED BY POISON OAK, IVY AND SUMACH.—Dr. S. A. Brown, U. S. N., Mare Island, Cal., believes that he has found a specific for the eruption caused by contact with poison oak, etc. He writes: "This specific is *bromine*. I have used it with the same unvarying success in at least forty cases. The eruption never extends after the first thorough application, and it promptly begins to diminish. Within twenty-four hours, if the application be persisted in, the patient is entirely cured. I use the bromine dissolved in olive oil, in cosmoline, or in glycerine. The application with glycerine is painful, and, I think, possesses no advantage to compensate for the irritation. The strength of the solution is ten to twenty drops of bromine to the ounce of oil, used by rubbing gently on the affected part three or four times a day, and especially on going to bed at night. The bromine is so volatile that the solution should be renewed within 24 hours of its preparation.—*N. Y. Med. Record.*

℞ Bromine ℥ss
Olive Oil ℥ss
M.

Society Reports.

CHICAGO MEDICAL SOCIETY.

Annual meeting, Monday, April 1st, 1878.

President Dr. E. INGALS in the chair; about 40 members present.

The reports of the secretary and treasurer were read.

The election of officers resulted in the unanimous re-election of Dr. E. Ingals as President; Dr. H. M. Lyman as Vice-President; Dr. D. W. Graham, as Secretary, and Dr. Chas. W. Earle as Treasurer.

The propositions submitted by the committee at the last meeting were then taken up, discussed, and adopted by a large majority.

A committee of five, Dr. Lyman, chairman, was appointed to select a central place for the next meeting.

Maternal Impressions and Mothers' Marks, was the title of a paper read by Dr. ROSWELL PARK.

The writer began by calling attention to the antiquity and prevalence of the popular notion that the mental condition of a woman *enceinte* can be transmitted and translated into, or perpetuated by abnormalities in the development of the fœtus, and asking whether there was any theoretical or substantial basis for such belief. As a popular belief it was unhesitatingly received by the more ignorant of the laity of the present day even, and he desired to discuss the subject from the standpoint of sound anatomical and physiological data, and thus give the *exposé* to a fallacy.

To this end he traced the blood current of both maternal and fœtal organizations, showing that at no time, from the inception

of the developmental process, till its completion, was there the slightest direct vascular communication between the two; and further than this, that no corpuscle or particle of germinal matter which could bear any impress, or give any peculiar direction to future growth, could pass through the membranes which the vascular or villous walls interposed. He claimed that the fœtus got its nutritious supply in a crude gaseous or albuminous condition, by osmotic processes, and worked it up *pro re nata.*

While he allowed that all growth depended upon such supply, and that its proper regulation might be, and to a great extent was, under the control of the nervous system—and therefore more or less under that of the mind—of the mother, he insisted that the influence of any derangement of control, or of supply, could not be pre-determined, or estimated in terms of departure from the normal standard. In confirmation of these statements he appealed to the known tendency in cases of abnormality to revert to more embryonic types of growth—to interesting pathological features of these cases, and to the accepted teachings of comparative embryology.

Having disposed of the possibility of influences of this kind through the blood or nutritive supply, he considered the possibility of the transmission of such influences by other means, and quoted Whittaker, Meadows, Küss, Hermann, and others, to the effect that the placenta contained neither nerve nor lymphatic, and that the cord contained neither these, capillaries nor vasa vasorum; and that those who claimed otherwise were the ones who had not investigated for themselves.

He thought one was forced to the conclusion that the ovum and the spermatozöon contained between them all that was to differentiate the particular individual from others of the race, and that it was more truly scientific to acknowledge our total ignorance of the mysteries of heredity than to try to account for them, as too many would do; and he would impose the burden of proof upon those who held a contrary opinion.

The ridiculous features of the subject were then touched upon, such as the intrinsic absurdity, not to say stupidity, of ascribing to accidents or impressions during the later months of pregnancy peculiarities which must have had their origin almost consentane-

ously with that of the embryonic mass, and before the mother was aware of her condition. A number of vices of conformation that must have their starting point thus early were mentioned—as well as many of the various pathological conditions of uterus, placenta, membranes, or ovum, which must certainly lead to some abnormality in the offspring, such as a double monster arising from a double "primitive trace."

The writer then referred to the subjective features of the case, the trying ordeal of gestation, how the mind of one mother was agitated by various and conflicting emotions and anxieties, while that of another never seemed disturbed, and denied that the percentage of marked or deformed children born to those like the former, exceeded that of similarly marked babes born to those like the latter. But, to carry the matter to its legitimate extreme, he asked if anything analagous to the matter of maternal impressions had ever been noticed among animals, and could get no answer in the affirmative. He quoted the investigations of John Hunter and Dr. Fisher (of New York State), who always inquired of patients approaching confinement (altogether more than 3,200 cases), concerning their hopes and fears relative to the subject in hand, and who never found any correspondence between apprehensions and results, nor anything which could in any way tend to substantiate the general idea.

Dr. Park closed by referring to the number of recorded cases which would seem to place the possibility of the subject of the essay beyond the pale of doubt, and said that, although many could be discarded at once as unscientific and worthless, a few were vouched for by men whose names might almost bespeak conviction, and that the most difficult matter was to decide how to receive such cases, how to accord them their proper weight in the argument. He thought that some of them might have happened as pure coincidences, than which stranger ones have occurred. Respecting the remainder, he declared we ought to suspend our judgment. The facts of such cases are so enshrouded in uncertainty, and testimony of interested parties so liable to error, that it was the only just course to pursue. This was not urged in any iconoclastic spirit—but how much better and more straightforward such a course. "Granted that strange vices of con-

formation do occur, we must look (on above grounds) to something deeper and beyond mere desires, caprices or mental impressions, for their explanation."

Regular meeting, Monday, April 15, 1878, at Grand Pacific Hotel.

President Dr. E. INGALS in the chair—fifty members present.

Purpura Hemorrhagica. Dr. N. S. DAVIS read a report of five cases of this disease, which fell under his observation during twenty years of practice in this city.

Four of the five patients were male children, and one only was a female. The four boys exhibited signs of hemorrhagic diathesis (profuse persistent bleeding from insignificant wounds; frequent copious bleeding from the nose) in infancy. At the time of the doctor's visit they were bleeding from the nose, and showed several blood tumors under the skin of their limbs, and numerous petechial spots. Two of the patients belonged to the poorest class; but one was the child of very wealthy people, and two lived in fair circumstances. In regard to treatment, the fluid extract of ergot in moderate doses often repeated, and combined with tincture of digitalis, seemed to control the attack of hemorrhage, to lengthen the period of intermission, and to lessen the severity of subsequent attacks. In his remarks, Dr. D. touched upon the various theories which have been advanced, but none of which offers a satisfactory explanation of the peculiar features of purpura hemorrhagica.

In the discussion following the report of Dr. Davis, Dr. HOLMES related a remarkable case of hemorrhagic diathesis, which lately came under his observation. About one year ago, an apparently healthy old man, with senile cataract in both eyes, was admitted to the Eye and Ear Infirmary. Dr. H. performed the preliminary operation of iridectomy upon both eyes, and though there was more bleeding than usually, he did not suspect there was anything wrong. The eyes recovered quickly, and the patient left the institution after two weeks. In November, he returned for the extraction of the cataract. The operation went off without any accident, except a rather profuse bleeding from the conjunctival flap. The eye progressed favorably until

the third day after the operation. On that day, without any apparent cause, the blood began oozing out of the wound, and continued flowing for nine days in spite of pressure bandage, and the internal use of ergot. The patient then stated that on several occasions he nearly bled to death from slight wounds, and the bleeding always began on the third day.

SOCIETY OF PHYSICIANS AND SURGEONS.

REPORTED BY JUNIUS M. HALL, M. D.

(*Regular meeting at Grand Pacific Hotel, Monday evening, April* 8, 1878.)

The President, Dr. Wm. H. Byford, in the chair.

Dr. Wm. G. Dyas, read the second paper of a series of four, upon the lymphatic system. It was devoted exclusively to the subject of alimentation, describing and comparing the manner in which the different organisms assimilate nutriment. Commencing from the lowest grade of organic life as it exists in unicellular animals, then demonstrating the gradual steps nature takes to the development of the typical intestinal canal, he proceeded to show the several objects accomplished by alimentation in the formation and maintenance of the individual, and the continuation of the species; to what extent, moreover, the temperature of the organisms depended on it. In connection with this part of the subject, he showed how different organisms were affected by varying degrees of heat, and how the condition of dryness or moisture influenced the result.

He insisted upon the difficulty there was in giving an adequate definition of what constituted animal life as separate from organic life as seen in vegetables, and was of the opinion that, as yet, logically speaking, we must be content with a mere description of the several attributes of both modes of existence, as observed in their more developed forms.

Dr. Sawyer showed a method of using the forceps during the expulsive stage of labor, in order to prevent extension of the head, thus obviating to some extent the danger of lacerating the perineum.

A letter was read informing the society that the Chicago Medical Society, at its last meeting, adopted the report of the joint committee of the two societies, recommending union and a central place of meeting.

After considerable discussion as to the advisability of disbanding this society, it was decided to defer final action to a future meeting.

THE Illinois State Board of Health has decided to issue, as soon as it can be prepared, a directory of all the practitioners in the State, giving their legal status, with other information of importance. This step is prompted by the frequent queries with regard to the standing of practitioners, and is absolutely necessary to give efficiency to the "Act to Regulate the Practice of Medicine." It will contain over 5,000 names. About 4,500 certificates of the different kinds have been issued. Two have been revoked, and no doubt more will be. There are now nearly 300 cases undecided. More have applied than was expected, and the desire has been general to get certificates, even by those who were not compelled by law to do so. In some of the counties, both laws are carried out, owing to the interest taken in them by the profession, and the hearty co-operation of county clerks. As far as can be learned, about 1,100 have left the State or abandoned practice.

THE Third Annual Session of the State Medical Society, of Arkansas, will be held in Fort Smith, on Wednesday, May 1st, 1878. This organization already numbers over two hundred and thirty members, engaged in the practce of medicine in the State. All graduates of medical colleges and universities in good repute with the American Medical Association, interested in the progress of Medical Science, are invited to attend and join the organization.

Reviews and Book Notices.

SPINAL DISEASE AND SPINAL CURVATURE; Their treatment by suspension and the use of plaster of Paris bandage. By Lewis A. Sayre, M. D., etc., etc.: London, Smith, Elder & Co.; Philadelphia, J. B. Lippincott & Co., 1878.

This little volume of 121 pages, dedicated to the British physicians and surgeons who accorded such a generous reception to the author during his late visit to England, has the merit of presenting in a convenient form full directions respecting the mode of application of the plaster-jacket in spinal curvature. It is embellished with eighteen photographs and seventy wood cuts, which not only serve to illustrate the principles to be observed in the application of this dressing, but also the practical results obtained by its use in the case of patients. Many of the cuts are those which have already appeared in the author's recently published lectures on Orthopedic Surgery.

It is needless, at this late day, to explain to our readers Professor Sayre's method of enveloping the trunk in a shell constituted of plaster and "cross-barred wiggin,"—often reinforced by vertical strips of perforated tin or other metal—as a result of which support is obtained that relieves the articular faces of the vertebræ in Potts' disease from the injurious results of pressure. Still less, perhaps, is it necessary to observe that the benefits obtained by the adoption of this method of treatment, have exceeded the most sanguine hopes of those who have employed it. The numerous papers which have appeared in the medical journals, Prof. Sayre's public demonstrations of its utility, as well as his practical exposition of the subject in his lectures on Orthopedic Surgery, and his report published (and reprinted) in the Transac-

tions of the American Medical Association for 1877, have fully satisfied the demand for clear and definite information on the subject.

We do not propose to discuss the attempts which have been made to detract from the reputation of the author by charging that he was not the first to suspend a patient and then to completely surround the body with a plaster cast. Very recently, and, unless we are mistaken, since the author's return to this country, the attempt of this character on the part of Dr. Bryan, of Kentucky, has been succeeded by another in behalf of some German practitioner, who has long used the identical swing employed by Prof. Sayre.

There should be, at this day, few inventors and discoverers who are not fully prepared to encounter charges of this sort. There is nothing new under the sun; and in point of fact, no man ever really originates anything. The history of the discovery of anæsthesia is a striking commentary upon the fact that when men's minds are generally intent upon a problem, several individuals will simultaneously so nearly reach the solution, that it is well nigh impossible to adjudicate between their rival claims.

We are only surprised, in this present matter, that a man so robust, physically and mentally, as our author, should have thought it worth his while to take up the cudgels in self-defense on the question of priority. To the professional world it is a matter of very small moment indeed, whether Dr. Bryan first suspended his patient from the gas pipes of Bellevue Hospital, or whether some other hospital interne preceded him in doing this. All the honor all the credit, all the immense prestige to be gained from a quick and clear appreciation of the value of encasing the entire trunk in plaster, of giving public demonstrations of its practical value, of clearly and vigorously presenting its claims to the profession and the world at large, and of finally placing the method in the high position of a received and accepted procedure—all this belongs justly and legally to Prof. Sayre. It is his, and no man can take it from him. He deserves every word of the whole-hearted encomiums of his professional friends in England, many of which were uttered with the mute commentary

of tears. His name will always be inseparably associated, the world over, with the plaster of Paris jacket, all critics, rivals, claimants and even enemies to the contrary notwithstanding. We believe it is not exaggeration to say that the honor is one in which every American surgeon may feel an honest pride.

J. N. H.

TRANSACTIONS OF STATE MEDICAL SOCIETIES.

1. *Transactions of the Medical Society of the State of Pennsylvania*, at its twenty-eighth annual session, held at Harrisburg, June 13, 1877, pp. 428.
2. *Transactions of the Twenty-second Annual Meeting of the Ohio State Medical Society*, held at Put-in-Bay, June 12th, 13th and 14th, 1877, pp. 200.
3. *Transactions of the Eighth Annual Session of the Medical Society of Virginia*, held in Petersburg, October 23d, 24th and 25th, 1877, pp. 192.
4. *Transactions of the Canada Medical Association*, tenth annual meeting, Montreal, Sept. 12th and 13th, 1877, pp. 244.

1. The larger portion of the *Transactions of the Pennsylvania Society* is made up of reports from the county medical societies on topography, meteorology, mortality, and prevalent diseases in the different counties.

Dr. P. D. KEYSER presented the result of his examinations of eyes affected with conjunctivitis and blepharitis ciliaris, in regard to the presence of refractive errors. Finding either hypermetropia or astigmatism in every case, he concludes that ametropia is a very common cause of these inflammations of the eye.

DR. BENJAMIN LEE takes occasion to make some very instructive remarks on the *diagnosis of psoas abscess* in connection with the history of a patient who had a well-developed psoas abscess, while "none of the numerous physicians who had examined him had suspected its existence." The patient was a well-developed, thick-set boy of ten years. "When four years old he was attacked with whooping-cough. From this time forward his parents noticed

an alteration in his gait and carriage. He was awkward in his movements and could not run like other children. At two different times he had attacks of severe pain originating in the left side and shoulder and extending around to the spine." In August, 1874, he fell from a hay-mow, the distance was about fourteen feet, and the brunt of the blow was borne by the left ischium. "Within a month after, he was attacked with acute pain in the left side of the abdomen, in the region of the descending colon. The agony was so intense that he was held on the lap for a week, the only relief being from strong pressure with the hand over the seat of pain." He was treated for "inflammation of the colon." The attack subsided, but a month later it was noticed that his spine was curved to one side. This was pronounced by a surgeon to be "a *trifling* muscular contraction," and the use of Indian clubs and dumb-bells, exercise and fresh air were advised. This was on the day previous to Dr. Lee's first visit. The condition of the patient as found by the doctor, may best be described in his own words: "When I entered the room, the patient was lying, dressed, upon a bed. I observed first, that he rose with great difficulty, turning on to the side before attempting to sit up, and holding his shoulders quite stiff. I requested him to walk, with his clothing still on, and found that he stooped forward considerably, keeping the knees bent, the heels flat on the floor, the left toe pointed in, and the buttocks projected much posteriorly, especially on the left side. He complained of no pain on walking, and could even step down heavily with either or both feet without apprehension. There was a tendency to rest the left hand on the knee of that side. I now directed him to strip, and examined him first standing. I found that when he straightened out the right leg, the left foot was raised from the floor, the hip being much and the knee slightly flexed. The spine was curved forward deeply in the lumbar region, as in lordosis, but without any projection higher up. It was also curved to the right, throw the shoulders towards the left, and depressing that of the left side. I now made him sit down, when, presto! every particle of spinal curvature vanished, and in place of the lordosis, there was the slightest possible bulging of the lumbar spine backward, and a certain rigidity in the prominent tract. It was evident, there-

fore, that the contraction producing the antero-lateral curvature was not in the muscles of the dorsum of the spine and trunk, but in those which flex the thigh on the pelvis, or *vice versa*."

These muscles are, on the one hand, the proper *flexors* of the thigh, or, on the other hand, the *psoas* with the *iliacus*. Dr. Lee decided against the flexors, "because the trunk was flexed on the thigh, rather than the thigh upon the trunk; in other words, he bent the body forward rather than drew the limbs up;" and from the absence of the characteristic signs of disease of the hip-joint, which contractions of the flexors generally would indicate. The contraction was therefore located in the *psoas* muscle. The patient was caused to lie down on the floor on the flat of his back; and a careful pressure directly above the ramus of the pubes on each side of the abdomen, met on the left side with "a firmly resistant surface, about level with the brim." "This tumor was smooth and even, elastic—under firm pressure presenting a sense of deep-seated fluctuation—and rounding off gradually at its upper end." The presence of a psoas abscess was therefore, demonstrated, "caused immediately by the severe fall alluded to, but primarily by the succussion of the vertebræ and cartilages years before, by the paroxysms of whooping-cough."

The boy was supplied with a well-fitted spinal splint, a spinal swing, and a trapeze, in the use of which he was instructed, and returned home. In November he came back to Philadelphia, with "a well-defined tense tumor of considerable size, below Poupart's ligament." The aspiration was only partially successful, and an injection of salicylic acid and iodine for setting up a healthy action in the cavity, failed entirely. The pus rapidly re-accumulated and made its way along the track of the needle, and the abscess soon discharged freely. Hectic set in with night sweats; but when the patient was removed from his dark, gloomy, and very small room, to a place where he could have sunshine, fresh air, and homely diet, he began to improve so quickly, that "a month after the spontaneous discharge of the abscess, he left for home greatly improved." The systematic use of the swing was recommended, and the wheel crutch added, in order to restore the use of his limbs. "During all this time he was never, *day or night*, without his spinal splint." In May of

last year, the patient was reported as "stronger than he ever was, in perfect health; his back entirely straight; taking the most violent exercises, and never complaining of pain, weakness, or soreness."

Dr. JOHN H. PACKARD found the elastic ligature very useful in the treatment of urethral fistulæ. In a case with three fistulous openings at the perineo-scrotal region, perineal section having been performed, an elastic ligature was drawn through each fistula, and brought through the wound of operation, tightened so as to produce slight constriction, and its ends tied together with a thread. The constriction was renewed every two or three days, as the tissues yielded; they closed up behind the ligature very kindly as it made its way through, and in a few weeks the fistulæ were divided and healed.

The "new" *modification of Syme's operation*, which Dr. W. R. HAMILTON describes, was first suggested by the late Professor Linhart, of Würzburg, in 1856, and has, ever since, been taught and practiced in all medical schools of the European continent.

2. The less voluminous *Transactions of the Ohio Society*, contain a report by Dr. S. S. GRAY, of Piqua, on the so-called *Milk-sickness* in animals. "If left alone, the sick animals stand or lie around for a few days, refusing to eat, and dying soon. But if exercised violently, they are seized with trembling, and in many cases fall down and die suddenly." "The milch-cow is comparatively safe, the poison being eliminated from her system in the milk." And through such milk the disease is spread among other animals; it is communicated to men by the milk and the flesh of diseased animals. The symptoms are languor, variable appetite, gnawing at the stomach, nausea, torpidity of the bowels, stiffness of the limbs, an aversion to exercise, an insatiable thirst and great restlessness. Breathing, slow, with occasional sighing; tongue moist and but slightly coated, pulse normal. The nature of the poison, which when introduced into the stomach with the food, produces these symptoms, is still an unsettled question. It originates only in wild and uncultivated lands; cultivation destroys it.

Dr. J. H. POOLEY, of Columbus, reported four cases of *peri-*

typhlitic abscess successfully treated by incisions. The idea of cutting down into a perityphlitic abscess, was first acted upon by Hancock, of London, in 1848. But though the operation was entirely successful, no one followed his example until in 1867, Dr. Willard Parker, of New York, recalled the attention of the profession to the subject, by the publication of some successful cases. Since that time the operation has often been performed, and is now recognized as legitimate surgical treatment. Dr. Pooley could collect fifty cases with only four deaths.

Dr. JONATHAN MORRIS, of Ironton, adds his testimony in favor of *chloral hydrate as a remedial agent in puerperal convulsions*, in a report of two cases of this kind, in which it was administered with the best result.

3. The *Transactions of the Virginia Society* are published in the January number of the *Virginia Medical Monthly*. The advantages of this plan, over the issuing of a volume of transactions, are so obvious that other societies will probably be quick to follow the "new departure" of Virginia. The addresses, which fill over one-half of the transactions, are interesting retrospects of the recent advances in obstetrics, practice of medicine, hygiene and public health.

DR. J. S. WELLFORD, of Richmond, reports a series of cases of *poisoning by custards and ice creams*. A few hours after partaking of custard pie, not quite fresh, persons were taken sick with vomiting, purging, pain in the bowels, cramps in arms and legs, and general prostration. A boy of two years died ten hours after he was taken sick. The autopsy revealed inflammation of the gastric and intestinal mucous membrane, but no erosions or ulcerations. The chemical analysis, "found sufficient mercury in that portion of the contents of the stomach analyzed, which if it existed in the form of corrosive sublimate, would amount to from 0.35 to 0.5 of a grain, sufficient to cause death." The coroner's jury gave the verdict, "poisoned by mercury," with which opinion Dr. W could not agree; he thought that the custard, which was described by the patient as "bitter, sour and unpleasant to the taste," had undergone some decomposition in its albuminoid articles, which caused the irritation and inflammation of the intestines.

Dr. Martin L. James, of Richmond, contributed an interesting paper on *heart-clots*, reporting three cases which had fallen under his observation. The first patient was a woman of forty-three years; for several years she had been suffering from indigestion, frequent spells of diarrhœa, and congestion of the liver, and had become very anæmic and emaciated. But all this time, frequent and careful examinations had found all the organs and functions, other than the digestive and nutritive, in perfect health. On the 18th of January, 1871, a season of the most distressing nausea supervened, continuing for several days, and to a greater or less extent to the close of life, which occurred eight days from that time. During the night of the earlier portion of this season of nausea, the most remarkable cardiac murmur was developed. "It was heard over every portion of the chest, front and rear, and distinctly at a distance of four feet from the bed, the patient herself and all of the attendants hearing it. It was a constant vibratory and somewhat musical murmur, heard with the first sound of the heart, or to speak more properly, supplanting the first sound of the heart, highest pitched at its earliest portion, somewhat resembling the *frémissement cataire* of the French, but resembling to a striking degree the chirping of a young chicken. * * When, however, the ear was applied closely to the chest, it was found to be blended with a bellows murmur, of some roughness of tone. It continued uninterruptedly to the time of the patient's death, though toward the close of life, as the heart became enfeebled, it was heard with less intensity." The autopsy showed the structure of the heart in all respects normal; but a flattened fibrinous clot, of considerable firmness at the time of its removal, white in color, with a slight shade of buff, and homogeneous in structure, was found extending from the apendix auriculæ of the right sight, intertwined with the musculi pectinati running through the auriculo-ventricular opening into the ventricle, where it became entangled with the chordæ tendineæ and columnæ carneæ, being altogether about five inches in length, one inch and a quarter wide, and three lines in thickness.

The other two cases gave a similar history; the presence of heart-clots was diagnosticated from the presence of that peculiar

chirping murmur, and the diagnosis was, in both cases, confirmed by the autopsy.

DR. WM. SELDEN, of Norfolk, reports four cases of intra-capsular fracture of the femur, which resulted in bony union.

The value of *iodoform* as a local application in syphilitic, scrofulous, and indolent ulcers, is demonstrated by Dr. J. E. Chancellor in a transcript of some cases.

4. In the *Canadian Transactions*, a typical case of Addison's disease is reported by Dr. GEO. ROSS. The autopsy found all organs in a normal condition except the supra-renal capsules. These are enlarged, nodular, and firm to the touch. On section they show several larger and smaller caseous nodules.

DR. JOSEPH WORKMAN expresses his surprise that *acetate of lead in large doses* is not oftener employed in severe post-partum and other hemorrhages. Given "several drachms in the course of a few hours," it is the most efficient hæmostatic, and its use was never followed by any evil constitutional results.

DR. AD. ALT has examined a dozen *epithelial tumors of the anterior third of the eye-ball.* In regard to epithelial growths of the cornea, he states that they "do not seem to originate indiscriminately at any part of the corneal tissue, but only at the corneo-scleral junction." The first evidence is an excessive cell-formation in the epithelial layer of the conjunctiva or cornea. "This hyperplasia, acting like a foreign substance, keeps up a constant irritation of the underlying tissue, which leads to inflammation and destruction of the latter, and enables the epithelial cells to invade it. The epithelium grows into the mother-tissue in the shape of cylinders, which, by branching off form secondary and tertiary cylinders, and so on."

Considerable diversity of opinion exists at the present time as to the justifiableness of the operation of *excision of the knee joint.* Dr. GEO. E. FENWICK puts in a good word in favor of the operation, and sustains his opinion by the report of thirteen cases which were operated upon in the Montreal general hospital between 1865 and 1877, with the following result: Cured, 9; doubtful, 1; died of pyæmia, 1; amputated, 2.

F. C. H.

CEREBRAL HYPERÆMIA. By William A. Hammond, M. D., late Surgeon-General U. S. army; Professor of Diseases of the Mind and Nervous System in the Medical Department of the University of the city of New York, and in the Medical Department of the University of Vermont; Fellow of the College of Physicians of Philadelphia, and of the Academy of Arts and Sciences, Boston; Member of the Academy of the Natural Sciences of Philadelphia; of the American Philosophical Society; of the New York Neurological Society; of the American Neurological Association; Corresponding Member of the British Medical Association; Member of the Medico-chirurgical Society of Edinburgh, etc., etc. New York: G. P. Putnam's Sons, 182 Fifth avenue. 1878.

The pamphlet thus indicated, is an expansion of an essay read not long since before the New York Neurological Society. It must be confessed that, considering the immense array of titles adorning the title page, the work itself does little to justify the reputation of its author. Instead of a clear, sharp picture of cerebral hyperæmia, we are treated to a confused and hazy panorama of symptoms, which may be occasioned, many or all of them, by a dozen different conditions of physical disorder; and when the reader begins to look solicitously for some fixed point upon which to plant himself, he is blandly assured by the insinuation that, though it may be difficult for the inexperienced to distinguish the truth among so many contradictions, it is easy enough for the skillful. There is, also, a great and unnecessary parade of learning—an almost garrulous wandering at random over the whole field of cerebral pathology—which, though utterly useless to the student or practitioner who may read, cannot be deemed wholly without value if this were a book to slip into the hands of such of the laity as might need to be impressed with the profundity of the learning of its author. In fact, it is doubtful whether such people could peruse many of its pages without being incontinently filled with the belief that cerebral hyperæmia is the one precise and all sufficient cause of all their little aches and pains; and that their ordinary physician, who hints at cigars, wine, improper meals and their like, is most decidedly an old fogy of the worst kind. On the other

hand, it will be equally impossible for that same old fogy to repress a growing suspicion that the work in question, is the offspring of a brain in which cortical degeneration is gradually taking the place of cerebral hyperæmia. H. M. L.

TRANSACTIONS OF THE NEW YORK PATHOLOGICAL SOCIETY. Volume second. Based on the proceedings of the year 1875, and largely supplemented from the records of 1844 to 1877. Edited by John C. Peters, M. D., President of the Medical Society of the county of New York. New York: Printed for the society by Wm. Wood & Co. 1877.

This volume of nearly 200 pages, is made up of reports on pathological processes in the organs of the abdominal cavity. It contains the reports of 208 cases of diseases of the intestines; 23 cases of malignant diseases of the peritoneum; 13 cases of diseases of the pancreas; and 58 cases of diseases of the liver.

The committee on publication and the editors, wished to make each volume of these transactions "a valuable book of reference in most of the great emergencies of medical and surgical practice, and also in the recognition of obscure cases." They have ably acquitted themselves of their task in the present volume. The systematic order in which reports on diseases of the same organs, and records of similar cases are grouped together, is well adapted to the great purpose the editors aimed at, making the consultation of the work easy, attractive, and instructive.

INJURIES OF THE EYE AND THEIR MEDICO-LEGAL ASPECTS. By Ferdinand Von Arlt, M. D., Prof. of Ophthalmology in the Imperial University, Vienna. Translated by Dr. Chas. S. Turnbull, M. D., etc. Philadelphia: Claxton, Remsen & Haffelinger. 1878.

Whatever is written by so eminent a man and close observer as Prof. Arlt, is always worthy a most careful study. The present work is intended more for the surgical practitioner than the physician or student. It was originally published in separate articles in the *Wiener Medicinische Wochenschrift*, and the very favorable notices which they received, and the great demand for them, caused the author to publish them in book form. He divides his subject into three classes:

1st. Injuries produced by sudden compressson or concussion of the eye.

2d. Injuries produced by the entrance of a foreign body not acting chemically.

3d. Scalds and corrosions of the eye ball.

He also devotes one chapter to simulated diseases. A class of diseases very rarely seen by American practitioners. The translating and printing are creditably done. L. W.

BOOKS AND PAMPHLETS RECEIVED.

Cyclopædia of the Practice of Medicine. Edited by Dr. H. Von Ziemssen, Prof. of Clin. Med. Munich, Bavaria. Vol. XVII. General Anomalies of Nutrition and Poisons. By Prof. H. Immerman, of Basel; Prof. R. Boehm, of Dorpat; Prof. B. Naunyn, of Kœnigsberg; and Prof. H. Von Bœck, of Munich. Albert H. Buck, M. D. American editior. New York: Wm. Wood & Co. 1878. 8 vo., cloth; pp. 968.

Handbook of Ophthalmology. By Prof. C. Schweiger, of the University of Berlin. Translated from the third German edition. By Porter Farley, M. D., Rochester, N. Y. With diagrams and other illustrations. Philadelphia: J. B. Lippincott & Co. 1878. 8 vo., cloth; pp. 546. Price, $4.50

On the Source of Muscular Power. Arguments and Conclusions drawn. from Observations upon the Human Subject under Conditions of Rest, and of Muscular Exercise. By Austin Flint, jr., M. D. New York: D. Appleton & Co. 1878. 12 mo., cloth; pp. 103. Price, $1.00.

Montreal General Hospital; Pathological report for the year ending May 1st, 1877. By Wm. Osler, M. D., of McGill University. Vol. I. Montreal: Dawson Brothers. 1878. 8 vo., cloth; pp. 97.

The Vest-pocket Anatomist (founded upon Gray). By C. Henri Leonard, A. M., M. D. Multum in Parvo. 2nd enlarged edition, sixth thousand. Copyright, 1875–1878. Detroit: 1878. Price, 50 cts.

Transactions of Iowa and Illinois Central District Medical Association, at the Meeting held in Board of Education Rooms, April 11, 1878, Rock Island, Illinois.

The Therapeutical Society of New York. (Reprint, with additions from the *New York Med. Journal*, Feb., 1878.)

A Review of the Treatment of Fracture of the Femur. By Edward Birch, M. D. (Reprint from the *St. Louis Med. and Surg. Journal*, March, 1878.)

Medical Organizations and their Value. An address delivered before the Alumni Association of Jefferson Medical College, March 9, 1877. By William B. Atkinson, M. D. Published by order of the Association.

Annual Announcement of Lectures at Toland Hall, Medical Department of the University of California, San Francisco. California Session of 1878.

Summary.

Obstetrics.

Laparo-Elytrotomy.—Dr. T. G. Thomas. (*Am. Jour. of Obstetrics*, Apr., 1878.)

Dr. Thomas devotes some space to a historical sketch of the surgical procedures resorted to in order to save the life of the mother or child when delivery *per vias naturales* is impossible, considering the dangers, feasibility, and humanity of each. He discards statistics of such operations entirely, inasmuch as the successful cases only are usually reported.

With regard to the operation which he makes the subject of his paper, he says that since he fully elaborated his own idea of it, his attention was called to the fact that a very similar method was employed in one case by Ritgen, who suggested it in 1820, as a modification of one proposed by Jörg. To Dr. T., however, is due the credit of having independently conceived it, of having proved its practicability by operation upon the cadaver—the subject of the experiment having been the body of a woman who died in the ninth month of her pregnancy; and finally of having twice performed the operation with results not so easily attainable in any other way.

His first case was that of a woman *in articulo mortis* (result of pneumonia), where the chief object was to save the child if possible, and at the same time render the mother's closing hours free from the agony of labor. This result was readily accomplished; but the child proved to be premature and deformed, and died about the same time with the mother.

He then records three cases by Dr. Skene, of Brooklyn—one where craniotomy had already been done, and where the mother

survived the operation some hours, finally dying of exhaustion from her prolonged labor, and two where both mother and child were saved. A fifth case (Dr. T.'s second) was also thus doubly successful; thus making a total of three mothers saved, and four children delivered alive out of the five cases; a remarkable record.

Comparing his own operation with the others alluded to in the introductory part of the paper, he finds that the dangers of metritis, peritonitis, and incarceration of the intestines in a uterine rent, are entirely obviated, while those of shock and septicæmia are very much diminished. There is a possibility of cellulitis, and three of the above cases were complicated by fistulous openings in the bladder, which proved, however, a comparatively trivial matter, and partly the result of insufficient experience. The great danger is that of hemorrhage. This has not yet been encountered, but there is reason to fear it.

With regard to the details of the operation, and points chiefly to be observed, they are briefly these: the operator should be provided with pocket case, anæsthetic, Barnes' dilators, and some actual cautery appliance. The patient, fully anæsthetized, must be placed upon a firm table, and the os fully dilated by appropriate measures. An incision is then made from the anterior superior spine of one ilium to the spine of the pubis, just above and parallel to Poupart's ligament, and carried through the muscles and soft parts to the peritoneum; this will be found ample and movable, and must be lifted up and back. A sound or other guide in the vagina is then cut down upon, the vaginal wound sufficiently enlarged, and the child delivered by version, if an arm or the head present, by extraction if the breech do so. Then, the placenta having been delivered, the uterus is caused to fully contract, suitable measures are taken for stopping hemorrhage, and interrupted silk sutures introduced to close the abdominal wound. Observance of the usual precautions familiar to all surgeons, will, in all probability, insure a happy result.

THE TWINS OF ST. BENOIT. (*L'Union Médicale du Canada.*)

We visited, a few days ago, the freak of nature which has for a short time past been on exhibition to the Montreal public. This consists of a peculiar modification of twins—two heads,

necks and thoraces, and four arms; one abdomen, and two legs. The trunks blend together in the most curious way. The upper part of the trunks are quite distinct, but at the juncture of the thoraces with the abdomen, the two become united, so that whilst it is evident that there are two thoraces, there appeared to be but one abdominal cavity. The angle formed by the division above the abdomen is 125°, that is the thoracic axes are at an angle of about 60° with the abdominal axis. From the pelvis down, the parts appear quite natural. At the first glance, the abdomen, which has only one navel, seems to manifest nothing more than an unusual development. But on more attentive examination, it is evident that the intestines are quite distinct for each trunk. This is manifest, because when one side coughs, makes a long inspiration, cries, or defecates, the abdominal agitation is only visible on one side, while the other side remains tranquil. Moreover, when certain movements are made, a slight ridge in the median line is manifest through the whole abdomen, which indicates the division of the separate intestines. But what is remarkable, is that there is only one anus and one vagina, while the acts of defecation and micturition are independent for each side of the abdomen.

The legs—only two—are not associated with the same nervous system. This becomes evident by an observation of the two when only one is asleep.

The delivery was effected without difficulty; indeed a physician was not called. The mother is well and strong, and the progeny promises to live long. The babies are nine weeks old, in good health, and very pretty. The left is a little more plump than the right, but the general health and strength appear to be alike.

CHLORAL IN RETENTION OF URINE.—In the *Gazetta Medica de Roma*, Dr. Tidd narrates a case of the retention of urine relieved by chloral hydrate. A young woman in the eighth month of pregnancy, believed herself in labor, and had not passed her urine for twenty-four hours. The bladder was greatly distended, and projected prominently above the pubes and into the vagina; so much so that it was impossible to reach the neck of

the uterus with the finger. The external organs of generation were excessively tumefied and the suffering great. Morphia was administered, and for fear of rupture of the bladder, puncture was proposed. The proposition was rejected, and the following administered:

℞ Chloral. hydrat. ..... ℥ ijj
Aquæ ..... ℥ ij m.

Sig. One teaspoonful every half hour—later, every two hours.

Deep sleep soon followed, and five minutes after the administration of the second dose the evacuation of urine commenced, the patient being unconscious. Seven days afterwards normal delivery; no further retention.

Subcutaneous Injections of Ergotine in Metrorrhagia. —(*Journ. de Médecine*, Nov. 1877.)

M. Constantine Paul has made an interesting communication on this subject to the Société de Thérapeutique, reproduced by the *Bulletin général de Thérapeutique*.

The solution he uses, is that of Moutard-Martin, to-wit: water 15 grammes, glycerine 15 grammes, ergotine 2 grammes.

In thirteen cases of metrorrhagia following cancers, or abortions, Paul has seen the hemorrhage cease in from five to ten minutes. In each case, 66 milligrammes of ergotine were injected, that is to say a gramme of the solution.

The advantages of this method are incontestable, and far superior to the use of ergot by the stomach, for several reasons; first, the rapidity with which it acts, a fact of extreme importance when the hemorrhage menaces the life of the patient. Besides, the colic caused by the injection of ergot, is avoided, and finally the effect produced is of longer duration.

Transfusion.—Dr. M'Clintock, of the Dublin Obstetrical Society. (*Dublin Jour. of Med. Sci.*, March, 1878.)

A patient was nearly exsanguinated by flooding during labor. When Dr. M. reached her bedside, he found her in a most alarming condition, insensible and almost pulseless. Examination revealed a leg in the vagina. He at once delivered the

child, which had evidently been dead but a short time. Up to the time of his visit, she had been in labor five hours. In spite of every precaution and effort, including the hypodermic use of sulphuric ether, she did not rally—the surface being cold and clammy, and the pulse barely perceptible. Transfusion offering the only hope, he sent for Dr. McDonnel, who brought with him the apparatus bearing his name. Nine hours after delivery, the operation was performed, ℥x of blood being taken from the husband and defibrinated, and then slowly injected into the right arm. Immediate improvement in the pulse was noticed, and in a few hours there were most encouraging indications of reaction. Convalescence was perfectly satisfactory.

The reporter alluded to an equally successful case of Dr. Beatty's, the only difference being that, in the latter case, an interval of fourteen hours elapsed between delivery and transfusion. Thus ample time was given in each case for reaction to assert itself, if it would. Dr. M'Clintock considers that these two cases offer very conclusive evidence of the value of transfusion under similar circumstances and as a *dernier resort*.

Practical Medicine.

Extra-Pericardial Adhesions.—Dr. O. von Widmann. (*Virchow's Archiv* for July, 1877.)

That systolic retraction of the præcordia is not a trustworthy sign of these adhesions is generally believed. The essential factor in the ætiology of this retraction is a change in the position of the heart, with or without adhesions. Inasmuch as the left to right diameter of the heart is shortened during systole, if, for any reason, the organ were so turned as to make this the antero-posterior diameter, there would be a tendency to a vacuum with each systole, and atmospheric pressure might cause the retraction.

Dr. Riegel has called attention (*Berlin. Klin. Wochenschrift*, Nov., 1877) to the fact that, while the apex beat is more decidedly revealed on a cardiogram during expiration than during inspira-

tion, the converse has been observed in several cases of pericardial adhesions to the border of the lung; and he explains it by the inability of the latter to come forward during inspiration, while in expiration they retract upon the pericardium and so impede the heart.

COPAIBA AND CUBEBS IN CROUP.—Dr. Oldoni. (*Annali Universali di Medicina.*)

Five cases were cured by the following treatment:

℞ Bals. copaibæ - - - ℥ss.
Pulv. acaciæ - - - - ʒv.
Aq. menth. pip. - - - ℥iii. m.

Dessertspoonful every two hours.

℞ Cubebæ pulv. recent. - - - ℥ss.
Syrupi (simp.) - - - ℥x. m.

Tablespoonful every two hours alternately with the above. Diminish the dose for children under four years of age.

His cases were very severe in every respect.

FEIGNING FEVER. Sellerbecker, (*Berlin. Klin. Wochenschrift.*)

A peculiar case of feigning in order to secure greater attention is here reported. The chief points are as follows:

A female patient under treatment for stenosis of the heart and ulcer of the stomach:

Temperature found to vary, without apparent cause, from 101 to 103°. Pulse 120 and respirations 20.

The rapidity of the pulse was easily explained, and the doctor, by means of rapid and deep respirations, elevated his own pulse from 75 to 130 per minute.

The elevation of temperature was more difficult of explanation but was evidently effected by deceit. To clear up the point, the thermometer which in the axilla registered 101.1 was placed in the rectum which gave a temperture of only 99.6.

The patient eventually confessed and explained her methods the rectum.

As soon as the nurse had placed the thermometer in the axilla, from pretext of cold she covered herself well, and then drawing the back part of her chemise forward in the axilla, and making of

it a kind of sack in which to envelope the thermometer, she pressed it firmly between the arm and thorax. Then by rapid respiration she produced friction of the thermometer between the folds of her chemise. This she continued until she obtained the desired elevation.

Dr. Sellerbecker, in trying this himself, produced a registration of 114.4°. This effect could not, on account of evaporation, be produced when the thermometer was subject to friction by direct contact with the skin. But when the skin was very dry, in the course of three minutes a temperature of 107.4° was obtained.

It would seem from this circumstance that the temperature in the axilla, when the respirations are rapid and skin dry, should always be corroborated by the temperature in the mouth or rectum.

RESUSCITATION IN POISONING AND ASPHYXIA.—R. Boehm, (Arch. f. Exp. Path. und Pharmacologie. Bd. VIII. p. 68–100).

An injection of 0.1 gramme potassic nitrate, pushed rapidly into the veins of a cat causes, within a few minutes, a sinking of blood pressure, until it becomes zero. Respiration ceases, tetanic spasms set in and death is inevitable. If now artificial respiration is resorted to within 3–4 minutes after the stoppage of breathing, and the expiration is aided by alternate compression of the chest, the mercury of the manometer in the artery can be made to rise 50 to 120 millimeters with each compression; thus an artificial circulation may be maintained. Sometimes 4 to 6 compressions suffice, in other cases it requires 4 to 36 minutes to start the action of the heart, and to keep it up persistantly. This result is due not only to the supply of oxygen thus furnished to the nerves of the heart, but also to a mechanical stimulation of the heart by the compression. Within a time varying from 40 seconds to 54 minutes, the cardiac action is followed by natural breathing.

In apparent death from chloroform, resuscitation too can be effected by means of artificial respiration in those cases only, in which the heart has not yet fully stopped beating. If the latter accident has occurred, compression of the thorax becomes necessary, and even this loses its utility 7 to 19 minutes after the stop-

page of the circulation and 10 to 24 minutes after cessation of breathing.

Sudden deprivation of oxygen (rapid asphyxia) paralyzes the heart much more rapidly. Artificial respiration combined with methodic compression of the thorax must be commenced at the latest 1 to 1½ minutes after stoppage of the heart, in order to succeed as means of resuscitation.

Resuscitated animals show a number of "symptoms of resuscitation from apparent death." Boehm describes them as increased reflex irritability as in animals poisoned with strychnia, in co-ordinated movements, diminished sensibility, blindness remaining for two to three days, probably also loss of hearing, taste and smell, reduction of temperature and finally transitory glycosuria. In general, the animals resemble for a time dogs, whose cerebrum has been removed by the method of Goltz. Similarly as in deep narcrosis, the different organs do not all return to a state of activity at once. The heart first begins to act, next respiration returns, and finally the functions of the brain are re-established.

PATHOLOGY OF CONCUSSION.—M. Duret. (*Société de Biologie.*)

Mere oscillatory disturbances of the encephalon do not offer a satisfactory explanation of the profound symptoms supervening upon a blow upon the head; nor do such blows, when they produce concussion, leave sufficient structural change.

Duret has been able to reproduce *all* the symptoms of concussion, by increasing the tension of the cerebro-spinal fluid, by perforating the cranium, and injecting various fluids.

He cut away the cervical muscles, laid bare the occipito-atloidean membrane, and watched its respiratory pulsations, or recorded them by the graphic method. When he injected fluid, as above, this membrane became tense, and all the clinical manifestations of shock followed; he then punctured it, and allowed the fluid to escape, and all these evidences disappeared.

By such experiments, and by others equally ingenious, he was confirmed in the impression that it was to tension of the cerebro-spinal fluid, and not to changes of the cerebral pulp, that we should ascribe the phenomena of concussion.

Surgery.

Sudden Death From Severe Burns.—Ponfick. (*Berl. Klin. Wochenschr*, 1877, No. 46.)

P. has studied with F. Schmidt the effects of burns on dogs. Within a few minutes he found the red corpuscles of the blood dividing into an immense number of minute colored particles. These disappeared within a short time, thereby producing changes in the spleen, osseous marrow and kidneys. By the latter organs, the hemoglobine thus liberated in the blood is removed, not, however, without causing inflammation of the parenchyma. Since this sudden extensive destruction of red corpuscles seems to be an important factor in the grave results of burns, Ponfick suggests transfusion as a therapeutic experiment.

Dislocation of the Spine.—Dr. T. E. Little, of Dublin Pathological Society. (Rep. in *Dublin Jour. of Med. Sci.*, March, 1878.)

A case of genuine and uncomplicated dislocation of the spine was presented, almost a surgical anomaly.

A lad aged 18, fell, striking on the back of the head and shoulders, on a coal heap. Stunned for the moment, he was able to walk into the hospital ward from the cab. When Dr. L. first saw him, there was complete loss of power of both upper extremities, with diminution of sensibility; muscular power of lower limbs slightly impaired, head somewhat retracted but not rigid, intense pain upon effort to move the head, dejections voluntary, temp. 99½°. No displacement of vertebræ could be detected, even by examination through the pharynx. There was flushing of the surface of the upper parts of the body; a symptom Dr. L. had noticed in other cases of spinal injury. Within the four days following the tenth, the patient developed a well marked case of "Cruveilhier's Paralysis," muscular atrophy of the forearms being complete. There was also a peculiar glossy appearance of the hands (such as has been alluded to by Weir Mitchell).

Subsequently he had symptoms of Binz's "Paralytic fever,"

checked by antiperiodic doses of quinine; and he eventually emaciated, with contractures of lower extremities, but without atrophy. Retention of urine and diaphragmatic respiration, owing to atrophy of the *intercostales*, were accompanying features of the case. He succumbed at last to a gradually increasing apnœa, dying on the eighty-sixth day.

Autopsy revealed symmetrical dislocation forwards of the fifth cervical vertebra upon the sixth, displacement of the articular processes being complete. The anterior and posterior common ligaments were both intact. The spinal canal was narrowed to half its caliber, the point of greatest constriction being—as usual—the exact site of displacement. No microscopical examination of the cord was made. The muscles of the upper extremity were reduced to mere sheaves of connective tissue, with rows of fat globules, and here and there a muscle fiber apparently healthy.

INCISED PENETRATING WOUNDS OF KNEE JOINT—Dr. A. D. Stevens, (*Canada Medical Record, March*, 1878.)

The first case occurred in February, 1873, and was in the person of a boy about sixteen years of age, of healthy appearance himself, as well as his parents. He had been preparing wood for sugar making, and accidently struck his knee with the axe, inflicting a wound about an inch in length upon the upper and outer border of the patella, and exposing the joint to that extent. He did not stop using the injured limb until an active inflammation set in, when my services were asked. Upon visting him, I found all the symptoms of inflammation well marked, and the limb placed in the usual position, with a view of lessening pain. I at once gave him alterative doses of grey powders with Dover, and cold applications were placed upon the affected joint. After the more acute symptoms had subsided, I gave him iodide of potassium, with compound tincture gentian, and painted the knee with tincture of iodine. At this time, I was also able to place a well adjusted splint upon the posterior portion of the limb, in such a manner as to secure perfect rest of the joint, with the limb straightened. But few days passed before the presence of pus in the cavity of the joint was evident, but as the opening made by

the axe still existed, I did not interfere. I turned the boy over upon his belly, when a large amount of pus escaped from the opening.

The remainder of the treatment consisted principally in keeping the limb in the position forced by the splint, and doing for him whatever constitutionally he might require. The joint filled at least half a dozen times with pus, but was as often emptied by turning him over. The patient was kept in bed with the splint securely fastened to the leg till all appearances of disease had left, when he was allowed to use it cautiously. He has to-day as valuable a limb as he ever had.

The second case occurred in the month of August, 1875, and was in the person of a boy about fourteen years old. Like the preceding case he was healthy, and of healthy origin. The cut was made with the axe, as in the former instance, but nearly opposite the site of the other and about the same length. I did not see this boy, however, till suppuration had taken place, so that he had only to be turned over to relieve the joint of its contents. It only filled once, fortunately, and, with the aid of the splint already noticed, and alterative doses of iodide of potassium combined with a bitter tonic, and free painting of the joint, soon all traces of disease disappeared. About the middle of the following October he was able to do full duty upon the farm.

With reference to the third case I promised to speak about, I might say that, like the other two, he was apparently healthy and of robust parentage, while his age was about thirty years. He is married, and his occupation that of carpenter. While working at the frame of a building, his adze, from some cause or other, missed and struck him a blow just underneath, and a little to the right of the patella, causing a wound fully an inch in length, and penetrating the joint. I saw him within two hours of the accident. He had lost only a trifling amount of blood, but the wound was gaping to such an extent that the synovial membrane was visible for more than the length of the cut. Thus you will perceive the cavity of the joint received all the fresh air you could ask for. This fellow I strapped with the ordinary adhesive straps in such a manner as to prevent any motion whatever of the joint, and enjoined him on no account to step upon the foot. He returned

twice afterwards, for a renewal of the dressing, which, with a simple wash of carbolic acid, was all that was required for the cure of the wound. The wound healed by the first intention, and consequently no inflammation supervened, or, in fact, any other untoward event. In less than four weeks he was as well able to work as ever.

These are all the leading facts and particulars of the three cases, with the exception of the passive motion used in order to prevent anchylosis, and which I forgot to mention in the proper place.

THERAPEUTICS.

VASELINE AND SALICYLIC ACID IN OBSTETRICS.—Dr. Dubois. (*Med. Record.*)

Vaseline is a hydrocarbon, made from petroleum by simple evaporation and clarification. It is very cheap, being worth only some forty to fifty cents a pound. It has no taste or smell. Its rôle as a protective against the action of the air is extensive, as in burns, excoriations, etc. It is one of the best of lubricants. Its use is simple, and especially in complicated labors is thus very advantageous. Internally, it seems to relieve irritation of the mucous membrane, and, when taken up by the system, though it undergoes no proper digestion, to act much in the same way as cod-liver oil. As a vehicle for more active agents, it is more generally useful than any other oil-like compound. Salicylic acid has of late come into vogue, and is now used for a great variety of purposes—principally as an antiseptic, to reduce the heat of the body, and in diseases in which there is a morbid material in the blood, as in rheumatism, and gout, etc. It is not expensive, costing from thirty to forty cents an ounce. I have tried several samples of different manufacture, and find that of Rosengarten, of Philadelphia, by far the best, while the German article that I have used has proved caustic and utterly unfit for many purposes. The American acid is in silky, white crystals, like quinine, has no caustic taste, and, mixed with vaseline, makes a homogenous ointment. The German is amorphous,

looks like chalk, has a slight pinkish color and caustic taste, and, mixed with vaseline, makes a lumpy, irritating ointment, unfit for use.

It has been my practice for some time back to use vaseline, with a grain or more of salicylic acid to the ounce, and scented with a drop of ottar of roses, in all vaginal examinations, instead of oil or soap. I believe I thereby more certainly avoid carrying infection from case to case that I should otherwise do. In first confinements it may be used in the first state of the labor, so soon as the woman takes to bed. I make use of a glass syringe, an inch in diameter, without a nozzle. With an instrument of this kind an ounce or more of the semi-solid vaseline can be introduced up to the os, where it remains at the temperature of the body, in a semi-solid state. I use it in this way as a simple lubricant, and without the addition of the acid. If desirable, in certain cases, it can be combined with the extract of belladonna, and, after the labor is completed, with the extract of ergot, or, in case of hemorrhage, with the liq. ferri persulphatis, with all of which it mixes well. If it is desired to introduce it into the uterus, it can be rendered fluid by putting the bottle containing it into water of a temperature of 100° F., when it can be used with the ordinary uterine syringe. In the course of a labor I use three to six ounces, with the effect, as I claim, of shortening the first stage of labor, and rendering the parts, especially in first labors, easily dilatable in the second stage, while, after the placenta is delivered, a small quantity of the vaseline, with the acid added, disinfects the discharges, and does much, it seems to me, to prevent purulent absorption. Indeed, if puerperal fever was prevalent, I should not hesitate to introduce it freely into the uterus immediately after confinement. To illustrate the healing qualities of this combination, I some time ago had an extensive rupture of the perineum in a primipara, due to an unusually large child and an unyielding perineum. I passed two pins through the lips of the wound, and a figure-of-eight around each, and directed the patient to introduce a little of the vaseline ointment two or three times a day on her finger. On the third day after, when I next saw her, on removing the pins I found the wound entirely healed. My cases are not sufficient to base

positive conclusions on, but I am inclined to think that an hour or more can be saved in an ordinary labor by the use of the vaseline, and that the second stage will go on easier owing to a more thorough relaxation of the soft parts, and to the avoidance of unnecessary friction; and that its use, with the acid after labor, will do much to prevent puerperal absorption, and, in any event, will conduce to the comfort of the patient. In dilating the os with the sponge tent, I find that by coating it with the vaseline and the acid (ten grains to the ounce), I can more readily introduce it, the tent not expanding at first, owing to the coating of vaseline; but, if held for a moment or two in place, it will remain without danger of its coming away, and will expand to the same limits that it would have done without the coating of vaseline, as can easily be proved by putting two tents in water, one coated and the other not. In erosions of the os, after the engorgement of the parts is removed by glycerine pads, the vaseline and acid ointment, applied on cotton-wool, will do much to effect a speedy cure, especially if alternated with the glycerine. There is one use for this ointment that I have not fully worked out. Physicians are frequently applied to, to produce abortion. Recently, on the same day, two women came to me; the reason assigned in the one case was that the husband was syphilitic; in the other that pregnancy brought on violent attacks of spasmodic asthma. Of course I explained that the child had rights as well as the mother, but it was all that I could do to prevent one of these cases from going to a professed abortionist. In some cases of this kind prevention is better than cure, and I am inclined to think, from some experiments, that vaseline, charged with four to five grains of salicylic acid, will destroy spermatozoa, without injury to the uterus or vagina.

In conclusion, there are a number of uses for vaseline in the lying-in room and nursery. I make no claim to its being a "cure-all," but it is a great convenience, and its "role" is extensive. The ointment makes a good dressing for the umbilical cord. Vaseline answers better than oil or soap to remove the cerumen from the newly-born infant. Mixed with an equal weight of honey and ten grains of borax or of chlorate of potassa to the ounce, it answers an excellent purpose in case of thrush.

The ointment alone, or mixed with ten grains of quinine to the ounce, quickly removes the small worms that frequently infest the anus of young children. In the excoriations of infants it effects rapid healing. In the not uncommon sore eyes of the first few days of life, the vaseline alone introduced within the eyelids, effects a cure in a day or two. Again, in the "snuffles" of the old women, which, by preventing nursing, frequently seriously affect the health of the infant, it, when introduced into the nostrils with a camel's-hair pencil, answers better than anything I have as yet tried, especially if the head is kept warm with a flannel cap. There are many other uses for vaseline, alone or combined with varying proportions of salicylic acid, that the experience of the physician will readily suggest to him in this connection.

At the examination of the Illinois State Board of Health, held in this city on March 21st, out of a class of sixteen, only four passed. On April 11th, at Centralia, twenty-six received certificates out of forty-one applicants. Of these, nineteen had failed before, some two, and others three times, their examinations extending over a period of five months. Their perseverance was certainly commendable, and their final success was at least some evidence that they made good use of their time, prompted by the persuasive influence of necessity. Until recently no attention has been paid to midwives. The same rules will be applied to them as to practitioners.

Mr. Wordsworth exhibited to the Medical Society of London, last January, six cases of congenital displacement of both lenses, in one family—mother, two sons and their three children. They state that their ancestors were troubled similarly; thus making, if their statement be true, *ten* cases in *five* generations. They are all myopic.—(*Dublin Jour. of Med. Sci.*, March, 1878.)

Medical News and Items.

AMERICAN MEDICAL ASSOCIATION.—The twenty-ninth annual session will be held in the city of Buffalo, N. Y., on Tuesday, Wednesday, Thursday, and Friday, June 4, 5, 6, and 7, commencing on Tuesday at 11 a. m.

"The delegates shall receive their appointment from permanently organized State medical societies, and such county and district medical societies as are recognized by *representation in their respective State societies*, and from the medical department of the army and navy of the United States."

"Each State, county and district medical society entitled to representation, shall have the privilege of sending to the association one delegate for every ten of its regular resident members, and one for every additional fraction of more than half that number: *Provided*, however, that the number of delegates for any particular State, territory, county, city or town shall not exceed the ratio of one in ten of the resident physicians who may have signed the code of ethics of the association."

SECTIONS.—Practice of medicine, materia medica and physiology: Dr. A. L. Loomis, New York, Chairman; Dr. J. H. Etheridge, Chicago, Ill., secretary. Committee appointed to report to this section: On clinical and meteorological records: Dr. N. S. Davis, Illinois, chairman. Obstetrics and diseases of women and children; Dr. E. W. Jenks, Detroit, Mich., chairman; Dr. H. O. Marcy, Cambridge, Mass., Secretary. Surgery and anatomy: Dr. Henry H. Smith, Philadelphia, Pa., chairman; Dr. E. T. Easley, Little Rock, Ark., secretary. Medical jurisprudence, chemistry and psychology; Dr. Walter Kempster, Oshkosh, Wis., chairman; Dr. E. A. Hildreth, Wheeling, W. Va., Secretary;

State Medicine and Public Hygiene: Dr. J. L. Cabell, University of Va., chairman; Dr. E. J. Marsh, Paterson, N. J., secretary.

The following committees are expected to report: On prize essays; Dr. E. M. Moore, Buffalo, N. Y., chairman. On necrology; Dr. J. M. Toner, Washington, D. C., chairman. On catalogue of national library; Dr. H. C. Wood, Pa., chairman. On recommendations in President Bowditch's address; Dr. N. S. Davis, Illinois, chairman.

The following papers are to be presented at the meeting of the surgical section: Address by Henry H. Smith, M. D., chairman of the section, on certain points in the pathology of the bones, including tubercles. On disease germs, their nature, origin, and relations in cases of wounds, by B. A. Watson, M. D., Jersey City. On Septicæmia after re-sections, by D. H. Weeks, M. D., Portland, Me. On tracheotomy without tubes, by Henry A. Martin, M. D., Boston, Mass. On identity of hospital gangrene with diphtheria, by John T. Carpenter, M. D., Pottsville, Pa. On permeability of entire alimentary canal by enemata with some surgical applications, by Robert Battey, M. D., Rome, Georgia. On irritation of the metatarso-phalangeal articulation in valgus of the great toe, by Frank H. Hamilton, M. D., New York. On the process of repair in wounds with and without antiseptic treatment, by Frederic Hyde, M. D., Cortland, N. Y. On extirpation of the thyroid gland, by Julius F. Miner, M. D., Buffalo, N. Y. On fracture at the wrist, by John H. Packard, M. D., Philadelphia, Pa. On pathology and treatment of cancer, by Theodore A. McGraw, M. D., Detroit, Mich. On perityphlitic abcess, by D. M. Clay, M. D., of Shreveport, La.

All papers to be presented in the session of the section should be forwarded to Henry H. Smith, M. D., chairman of the surgical section, No 1800 Spruce street, Philadelphia.

At the annual meeting of the Michigan State Board of Health, which was held at Lansing, Tuesday, April 9, 1878, president Kedzie presented his annual address on "The Work of the State Board of Health," in which he gave an account of the past work of the Board and outlined its work for the immediate future.

Among the many duties which the board had performed since its organization, about the first effort was for the establishment of well organized and effective Boards of Health in every township, city and village throughout the State, and then bringing the State Board of Health into communication and active co-operation with all these local Boards of Health, thus gaining two important objects; (1) having an effective channel for imparting information; (2) having organized bodies through which the statistics in regard to public health could be gathered from all parts of the State. Besides this the board had secured the assistance of many physicians throughout the State, receiving from them many valuable reports, communications, and replies to circulars regarding the cause and progress of various diseases. In speaking of the efforts to impart information and gather statistics bearing on the public health he said the results were most gratifying. Not only sanitarians but the people at large, are grasping that very important idea, the possibility of the prevention of disease and death; that many diseases may be prevented altogether, or that when they do appear they may be stamped out as a forest fire may be extinguished, or they may be walled in like an inundation.

In outlining the future work of the board, the Doctor said that the law now says that the board shall from time to time recommend standard works on hygiene to be used as text-books in our common schools. He recommended that this subject be referred to a committee to report to the board at an early day.

He recommended the early publication of the material collected by the board, such as meteorological data, reports of diseases, etc.

Inasmuch as the methods for disinfection are similar for different diseases, he recommended that a general circular on the use of disinfectants be prepared and issued, so that whenever the board wishes to issue instructions for the prevention of any self-propagating disease, such a circular will save repetitions.

The subject of the pollution of streams by sewage is a question of great importance, and one that should be settled before sewer systems become practically beyond control on account of the large outlay of money to effect a change. When Detroit first

emptied its sewage into the river it was claimed that it was not possible to pollute such a mass of water, but since the country has become thickly settled above, the water supply of Detroit is already endangered, and fears are expressed that as the population above Detroit along the river becomes greatly increased the water of Detroit river will become unfit for domestic use.

He suggested the holding of sanitary conventions in different parts of the State to discuss sanitary subjects, and to bring together dealers in sanitary appliances, sanitary experts, and the people generally who need instruction in sanitary work. He hoped to see the day when these questions which lay hold of life shall be as freely discussed by the laity as they now are by experts in sanitary science. If such conventions were held, the secular press would distribute widely the truths brought out.

ILLINOIS STATE MEDICAL SOCIETY.—The Twenty-eighth Annual Session of this Society will be held in the city of Springfield, Ill., on the 21st, 22nd and 23d days of May, 1878. The president of the Association for the current year is Dr. J. L. White, of Bloomington. The Committee of Arrangements is composed of Drs. P. M. Griffith, J. Townsend and A. N. Patterson, all of Springfield. It is expected that there will be an unusually interesting session, as the attendance promises to be larger than heretofore, and many valuable papers are promised.

A NEW MEDICAL JOURNAL.—Beginning with the first of July, 1878, there will be issued from Cincinnati a Monthly Journal, to be known as the *Obstetrical Gazette*. It will contain forty-eight pages monthly, size and style of the *Popular Science Monthly*. It will be devoted exclusively to the cultivation and promotion of knowledge in Obstetrics, Gynecology, and Diseases of Children.

It will be edited by E. B. Stevens, A. M., M. D., for eighteen years editor of the *Cincinnati Lancet and Observer*.

A PHYSICIAN of *stamina* and *experience*, is called for in a thriving Indiana town. Address for particulars, etc., J. H. Etheridge, M. D., 603 Michigan avenue, Chicago, Ill.

THE Regular Annual Meeting of the Association of American Medical Editors, will be held on Monday evening, June 3d, 1878, at the Tifft House, Buffalo, N. Y. All Editors of American Medical Journals are eligible for membership, and are cordially invited to be present and participate in the meeting.

TAYUYA—A CARD TO THE PROFESSION.

Readers of the Digest department of this Journal have had occasion to know that M. Louis Ubicini, of Milan, Italy, who for a long period resided in Brazil, discovered while there that a plant named Tayuya was extensively and very successfully employed by the natives in the treatment of syphilis and scrofula. He proceeded, after investigation of its properties, to export a quantity of the root to Italy, where he prepared a tincture which has since been largely employed and favorably noticed by several eminent Italian physicians, among them Dr. Faraoni (who read a report on the subject, which has since been published, before the Medical Congress at Turin), Drs. Ambrosoli and Bazzioni, of Milan, Dr. Kruch, of Pavia, Dr. Galassi, of Bologna, and others.

As I desired to test the value of this remedy, I have induced Messrs. Buck & Rayner, of this city, to import a single case of the dilute tincture of tayuya, which is, so far as I am aware, the first brought to this country. If there are other practitioners who care to make trial of the tincture, I shall be greatly indebted to such if they will report the results to me, as I propose to publish in future, observations on its employment in this and several Eastern cities.

The dose of the dilute tincture is from two to twenty drops, according to the age of the patient—it is given in infantile disease—though the maximum named may be doubled and tripled in extreme cases, if cautiously administered.

JAMES NEVINS HYDE.

117 S. CLARK ST., April 25, 1878.

ANNOUNCEMENTS FOR THE MONTH.

SOCIETY MEETINGS.

Chicago Medical Society—Mondays, May 6 and 20.

Chicago Society of Physicians and Surgeons—Mondays, May 13 and 27.

CLINICS.

MONDAY.

Eye and Ear Infirmary—2 to 4 p. m., by Prof. Holmes and Dr. Hotz—2 p. m., Prof. Jones.

Mercy Hospital—2 to 3 p. m. Surgical, by Prof. Andrews.

Rush Medical College—1:30 p. m. Medical, by Dr. Bridge; 2:30 p. m. Dermatological and Venereal, by Dr. Hyde.

County Hospital—8 p. m. Necropsy, by Dr. Danforth.

Woman's Medical College—3 p. m. Surgical, by Prof. Owens.

TUESDAY.

County Hospital—1:30 p. m. Medical, by Prof. Lyman; 2:30 p. m. Surgical, by Prof. Parkes.

Mercy Hospital—2 p. m. Medical, by Prof. Hollister.

Eye and Ear Infirmary—2 p. m. Prof. Jones.

WEDNESDAY.

County Hospital—1:30 p. m. Ophthalmological, by Dr. Montgomery. 2:30 p. m. Gynecological, by Dr. Bridge.

Mercy Hospital—2 p. m. Eye and Ear, by Prof. Jones.

Rush Medical College—4 p. m. Diseases of the Chest, by Dr. E. Fletcher Ingals.

THURSDAY.

Mercy Hospital—2 p. m. Medical, by Prof. Davis.

Rush Medical College—1:30 p. m. Neurological, by Prof. Lyman.

Eye and Ear Infirmary—2 to 4 p. m. Operations by Prof. Holmes and Dr. Hotz.

FRIDAY.

Mercy Hospital—2 p. m. Medical, by Prof. Davis.

County Hospital—1:30 p. m. Medical, by Prof. Quine; 2:30 p. m., Surgical, by Prof. Powell.

Woman's Medical College—10 p. m. Ophthalmological, by Dr. Montgomery.

SATURDAY.

Rush Medical College—2 p. m. Surgical, Prof. Gunn.

Chicago Medical College—2 p. m. Surgical, by Prof. Andrews and Isham; 3 p. m., Diseases of the Chest, by Prof. Johnson.

Woman's Medical College—12 m. Gynecological, by Prof. Fitch; 3 p. m. Dermatological, Dr. Maynard.

Special Clinics daily, from 2 to 4 p. m., at the South Side Dispensary, and at the Central Free Dispensary.

For schedule of lectures at the colleges, apply to the college janitors.